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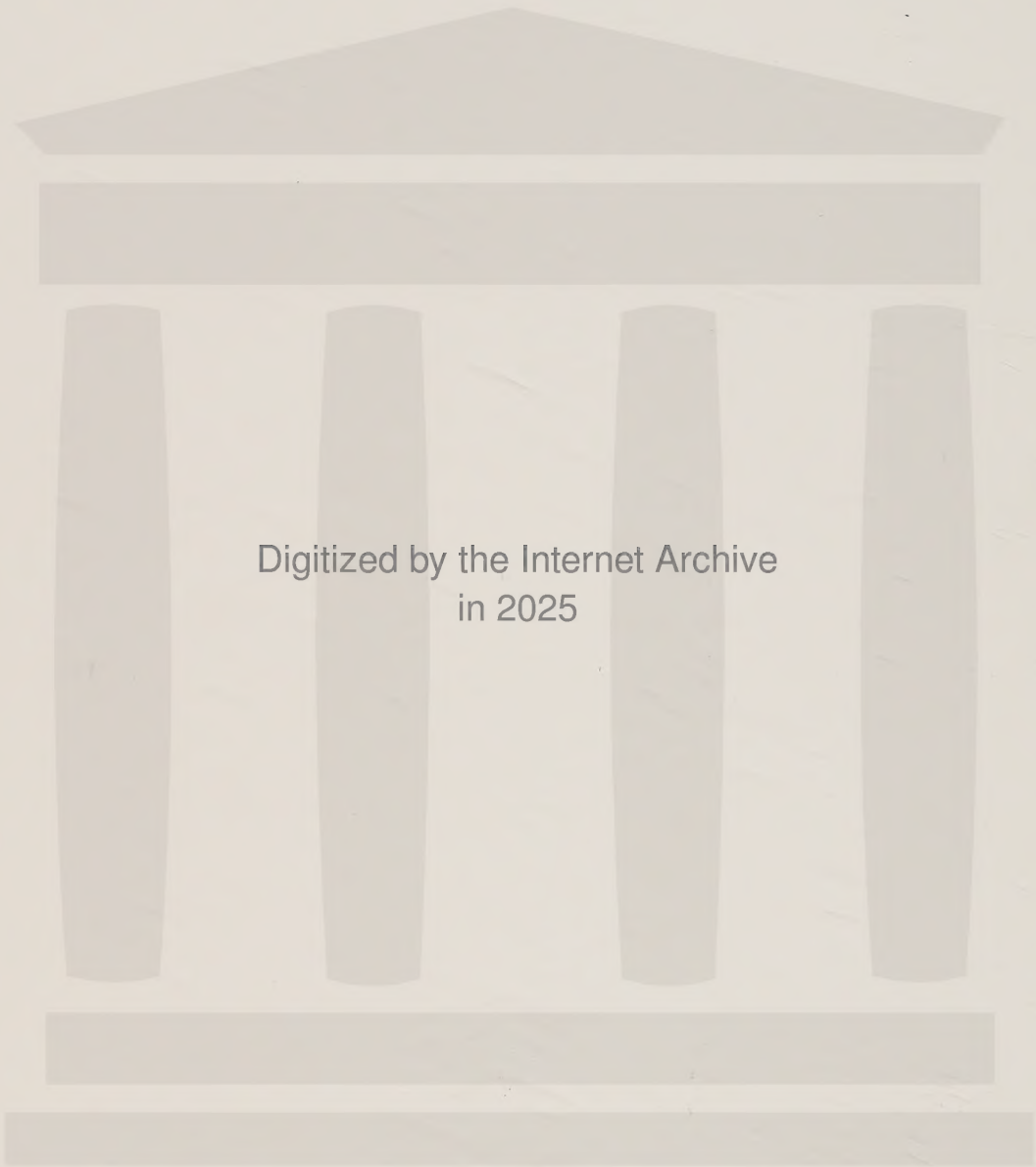

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Contents

In brief 1

Trends in social inequalities in male mortality, 2001–08. Intercensal estimates for England and Wales 5
Ann Langford and Brian Johnson

Life expectancy and disability-free life expectancy estimates for Middle Super Output Areas; England, 1999–2003 33
Olugbenga Olatunde, Chris White and Michael P Smith

Amenable mortality as an indicator of healthcare quality – a literature review 66
Sophia Kamarudeen

Notes to tables 81

Tables 83

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In brief

Coroner Reform

The Coroners and Justice Act 2009 received Royal Assent on 12 November 2009. It will change the way that deaths are investigated and the way that cause of death is certified by coroners and doctors. These changes may have an impact on the mortality data published by ONS. ONS will work with the Department of Health and Ministry of Justice (MoJ) to understand the effect that this legislative change will have.

MoJ have carried out a consultation seeking views on the detail of reform of the coroner system in England and Wales, which will inform the drafting of secondary legislation. It sought views on nine policy areas, including: the specific types of deaths which should be reported to coroners; post-mortem examinations; and the new appeals and complaints systems. ONS has responded to this consultation explaining the importance of producing reliable mortality statistics and the possible impact that the current system and some of the changes proposed may have on the quality of data.

ONS Longitudinal Study updated to 2008

The annual refresh of vital events linked to the ONS Longitudinal Study (ONS LS) was successfully completed in July 2010.

Researchers using the ONS LS now have access to an extra year of vital event information to use in their research. Information on births and deaths is now available for 2008, while cancer registrations are available up to 2007.

The ONS LS contains linked census and vital event data for a 1 per cent sample of the population of England and Wales. Information about more than 500,000 study members has been captured at each of the censuses since 1971, and plans to incorporate data from the 2011 Census are well advanced. More than one million people have been recorded in the ONS LS sample at some point.

ONS LS data processing involves close collaboration between ONS staff based in Titchfield and their former colleagues in Southport, who are now part of the Medical Research Information Service within the NHS Information Centre for Health and Social Care. This has been the third full year of processing following ONS independence. Thanks to the hard work and diligence of staff in both organisations, the transition has been seamless.

The ONS actively promotes wide use of the ONS LS while maintaining the confidentiality of the individuals in the sample. ONS LS records available for analysis are anonymised but the database contains individual-level data that have not been aggregated or disguised. To ensure confidentiality, these microdata can only be accessed at ONS sites through the Virtual Microdata Laboratory (VML). Support officers are available to help extract and use the data. ONS LS users

can be sent aggregated data in the form of tabulations that have been checked to ensure there is no risk of identifying an individual.

For further information or for a discussion about using the ONS LS, please contact:

Academic users:
Microdata Analysis and User Support Team
Tel: +44 (0) 1633 45 5844
Email: maus@ons.gsi.gov.uk
Website: www.ons.gov.uk/about/who-we-are/our-services/longitudinal-study

Other users:
Centre for Longitudinal Study Information & User Support (CeLSIUS)
Tel: +44 (0) 20 7299 4634
Email: celsius@lshtm.ac.uk
Website: www.celsius.lshtm.ac.uk/

Swine flu and mortality in the UK

The Health Protection Agency has published an analysis of deaths from pandemic influenza H1N1 ('swine flu') in the journal 'Eurosurveillance'. The paper describes the epidemiology of fatal cases in the UK since April 2009 and in particular risk factors associated with death. A fatal case was defined as a UK resident who died between 27 April 2009 and 12 March 2010, in whom pandemic influenza A(H1N1) infection was laboratory-confirmed or recorded on the death certificate.

Case fatality ratios (CFRs), that is the number of fatalities per 1,000 clinical cases, were calculated overall and by age and risk group (a risk group included those with certain medical conditions). The relative risk of death was estimated by comparing the population mortality rate in each risk group, with those not in a risk group.

Across the UK, 440 fatal cases were identified: 337 deaths occurred in England, 65 in Scotland, 21 in Northern Ireland and 17 in Wales. The analytical section of the paper only covers England. In England, unlike for seasonal influenza, fatal cases were mainly seen in relatively young and middle-aged adults (median age 43 years, 85 per cent under 65 years). The majority (77 per cent) of the 308 cases for which data were available were in a risk group.

The overall CFR was 0.4 per 1,000 clinical cases, but there was evidence of differences in the age-specific CFRs. The age-specific CFR for those aged over 65 years was higher at 9 per 1,000 clinical cases compared with 0.4 for those aged 6 months to 65 years.

For those in a risk group (excluding obese and pregnant cases), the estimated CFR for clinical cases aged between 6 months and 64 years was 2 per 1,000 clinical cases compared with 0.4 per 1,000 case for those not in a clinical risk group. The CFR for clinical cases aged 65 years or over in a clinical risk group was estimated to be 15 per 1,000 clinical cases compared to 1.5 per 1,000 for those aged 65 years or over who were not in a risk group.

The population attributable fractions (that is the proportion of the total number of deaths which would be averted if exposure to fatal pandemic influenza were completely removed) in the age group 6 months to 64 years were highest for chronic neurological disease (24 per cent), immunosuppression (16 per cent) and respiratory disease (15 per cent).

The findings show that the most vulnerable groups for fatal pandemic influenza virus infection are younger adults with chronic neurological, immunosuppressive and respiratory diseases. The results highlight that many deaths can be prevented if risk groups receive early targeted effective intervention programmes such as pandemic influenza vaccination.

Full details can be found on the website at:

www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19571

Future of the National Congenital Anomaly System

In December 2009 ONS issued a public consultation about the future of the National Congenital Anomaly System (NCAS). We received 26 responses from interested parties including regional directors of public health, the Department of Health, local congenital anomaly registers, the UK Screening Committee and Public Health Wales. The vast majority of stakeholders supported the recommendations set out in the consultation paper which were to:

- end the collection of congenital anomaly data on paper forms at ONS immediately. Some areas would continue to send SD56 paper forms to their local congenital anomaly register
- maintain the NCAS legacy computer system, without new developments, as long as it is needed (at very low cost)
- publish the annual figures for anomalies reported for 2008 as the final output from NCAS (see: www.statistics.gov.uk/pdfdir/cong0310.pdf)
- help the Department of Health and other stakeholders establish a comprehensive national system based on the work of the existing registries, as appropriate – if this involved significant work for ONS, it would need to be funded

In May 2010 ONS decided to adopt all these recommendations. Full details of the consultation, and ONS's response, can be found at:

www.ons.gov.uk/about/consultations/consultation-on-the-future-of-the-national-congenital-anomaly-system/index.html

In 2009 the (then) Chief Medical Officer for England, Sir Liam Donaldson, set up a Surveillance Sponsors Group to identify requirements for national disease surveillance including congenital anomalies. ONS is actively involved in this group. At its meeting in June 2010, the group agreed an interim proposal from the British Isles Network of Congenital Anomaly Registers (BINOCAR) to provide congenital anomaly surveillance for areas in England and Wales covered by the local registers, effectively replacing the role of NCAS for those areas. More information on this development is available from the Chair of BINOCAR, Professor Elizabeth Draper, at msn@leicester.ac.uk

Trends in social inequalities in male mortality, 2001–08. Intercensal estimates for England and Wales

Ann Langford and Brian Johnson, *Office for National Statistics*

Abstract

Background

This article presents estimates of mortality rates for men of working age by the National Statistics Socio-economic Classification (NS-SEC). Previously it has been possible to produce such mortality rates only at the time of a census, when populations are enumerated by occupation and NS-SEC. This is the first time that annual intercensal estimates have been produced, enabling the measurement of health inequalities by NS-SEC for the period 2001–08.

Methods

The Labour Force Survey (LFS) was used to provide population denominators by age and NS-SEC for men aged 25–64 for each year between 2001 and 2008. Numbers of deaths for the corresponding period were obtained from death registrations, and age-standardised mortality rates were derived. A number of measures of the inequality in mortality rates across socio-economic classes were compared.

Results

There has been a steady decrease in mortality rates for all NS-SEC classes over the period, 2001–08. Mortality rates for the 'Routine' class declined on average by around 11 deaths per 100,000 population per year, almost double that of the 'Higher managerial and professional' class. Absolute differences between the mortality of the least and most advantaged classes showed a small decline based on three different measures. Relative differences, however, increased over this period. In 2001 the mortality rate of those in routine and manual occupations was 2.0 times that of those in managerial and professional occupations. In 2008 that ratio had risen to 2.3. This pattern of declining absolute but rising relative inequalities is a well known phenomenon in the context of declining overall mortality rates.

Conclusions

The results presented suggest that annual trends in inequalities in mortality at the national level can be effectively monitored using LFS-based measures. This would complement the current measures that are based on area of residence rather than the socio-economic position of the individual.

Contents

Abstract 5
Introduction 8
Background 8
Methods 9
Results 15
Discussion 24
Conclusions 28
References 30

List of Figures

Figure 1 Age-standardised mortality rates by NS-SEC for 2001–08, men aged 25–64 15

Figure 2 Measures of absolute inequalities in mortality rates of NS-SEC classes by year, men aged 25–64 19

Figure 3 Measures of relative inequalities in mortality rates of NS-SEC classes by year, men aged 25–64. All measures indexed at 2001=100 21

Figure 4 Three year simple moving averages of age-standardised mortality rates by NS-SEC, men 25–64, 2001–08 22

Figure 5 Comparison of the age-standardised mortality rate for the Routine class with all-cause all-age mortality of the 'Spearhead' areas 22

Figure 6 Comparison of the aggregated model-based mortality rate with all-cause all-age mortality for England 23

Figure 7 Comparison of age-standardised mortality rates by NS-SEC for 2001, 2002 and 2003 with those produced using denominators based on the 2001 Census 24

List of Tables

Table 1 Age-standardised mortality rates and annual changes in mortality rates by seven-class NS-SEC for 2001–08, men aged 25–64 16

Table 2 Age-standardised mortality rates and annual changes in mortality rates by three-class NS-SEC for 2001–08, men aged 25–64 17

Table 3 Estimated annual decrease in mortality rate by NS-SEC and year, men aged 25–64 18

Table 4 Measures of absolute inequalities in mortality rates of NS-SEC classes by year, men aged 25–64 18

Table 5 Measures of relative inequalities in mortality rates of NS-SEC classes by year, men aged 25–64 20

Introduction

The presence of inequalities in mortality according to socio-economic position is well known, and has been the subject of a number of studies (The Black Report 1980, The Acheson Report 1998). The recent strategic review of health inequalities (The Marmot Review 2010) concluded that a social gradient in health persists and that action should focus on reducing it.

The need to tackle these inequalities gives rise to the need for reliable and timely measures to evaluate progress. While a number of measures exist and have been used by the Department of Health to monitor progress in reducing health inequalities, there is currently no measure based on the socio-economic position of individuals which is capable of annual updating.

This article presents, for men aged 25–64, estimated annual mortality rates by the National Statistics Socio-economic Classification (NS-SEC) for the years 2001 to 2008, along with a number of measures of inequality derived from those rates. It has not previously been possible to produce such annual mortality estimates, since the estimates of the population at risk by social classification were available only from the census. This article uses a methodology developed by the Office for National Statistics (ONS) that uses the Labour Force Survey (LFS) to provide annual estimates of the population at risk by NS-SEC (Johnson and Langford 2010). Analysis of trends in inequality over the eight-year period allows the assessment of this measure for monitoring health inequalities over time.

Background

The study of inequalities in mortality rates has a long history. The influential Black Report highlighted inequalities in mortality by social class in the 1980s. Subsequent authors have found that although overall mortality rates have fallen, relative inequalities have been increasing. For instance, Drever and Bunting (1997) looked at trends in male mortality from the 1970s to the 1990s and found that although there had been declines in mortality for each social class, there had been a relative widening in the differential between the least and the most disadvantaged. White *et al.* (2003), studying trends in social class differences in mortality over the period 1986 to 2000, reached a similar conclusion. Davey Smith *et al.* (2002), using area-based deprivation deciles as an indicator of socio-economic position, also came to the conclusion that relative health inequalities increased over the 1990s.

The Acheson report (1998) highlighted widening social inequalities and informed government strategy as outlined in 'Tackling Health Inequalities: A Programme for action' (Department of Health 2003). As part of this strategy a national public service agreement (PSA) was introduced which aimed, by 2010, to reduce inequalities in health outcomes by 10 per cent as measured by infant mortality and life expectancy at birth. The life expectancy target was underpinned by a more detailed objective which was to reduce, by at least 10 per cent, the gap in life expectancy at birth between the fifth of local authorities with the worst health and deprivation indicators (the Spearhead Group) and the population as a whole.

A 2006–08 policy and target update (Department of Health 2009) concluded that although life expectancy had improved across the board, the gap between the Spearhead Group and England as a whole was now 7 per cent wider than at the baseline. However the report also pointed out that

for males, some progress had been made, as the gap in all-age all-cause mortality had reduced from 142.4 deaths per 100,000 population in 1995–97 to 126.3 per 100,000 population in 2006–08.

The recent Strategic Review of Health Inequalities (The Marmot Review 2010), commissioned by the Department of Health, concluded that a social gradient in health remained and that action to reduce these inequalities was required across all the social determinants of health. It also proposed that progress should in future be monitored nationally against three main aspirational targets, including one on health outcomes as measured by life expectancy, healthy life expectancy and wellbeing.

This article aims to contribute to the debate on health inequalities by presenting, for the first time, annual mortality rate data for the period 2001–08 classified by the NS-SEC. These rates are used to produce a number of absolute and relative indicators which could be used to monitor health inequalities over time. These indicators would measure inequalities between individuals in different socio-economic groups. In this way they would differ from and complement previous target measures which are geographically based.

Methods

This section describes the NS-SEC in more detail, specifies the data sources used and describes the analytical approach adopted in this article.

The National Statistics Socio-economic Classification

The conceptual basis for the NS-SEC, as developed by Rose and Pevalin (2003), is the structure of employment relations operating in modern developed economies. Occupations are differentiated in terms of reward mechanisms, promotion prospects, autonomy and job security. The most advantaged NS-SEC classes (Higher managerial and professional), typically exhibit personalised reward structures, have good opportunities for advancement, relatively high levels of autonomy within the job, and are relatively secure. These attributes tend to be reversed for the most disadvantaged class (Routine).

Box 1 shows the NS-SEC analytic seven-class schema used in this analysis, and provides examples of the occupations included in each class. The classes 1 to 7 are referred to as 'analytic' classes, while those with no occupation (for instance the long-term unemployed or full-time students) are referred to as a 'residual' class.

There is also an aggregated three-class version of the NS-SEC where classes 1 and 2 are defined as 'Managerial and professional', classes 3 and 4 are defined as 'Intermediate' and classes 5, 6 and 7 are defined as 'Routine and manual' .

The NS-SEC category is derived from an individual's occupation and employment status and the size of their organisation. Since size of organisation is not collected on the death register, a version of NS-SEC is used which is derived from occupation and employment status alone. This is known as 'reduced NS-SEC' and differs in terms of its typical distribution among NS-SEC classes by less than 3 per cent. Reduced NS-SEC is used throughout the following analysis.

Box 1 National Statistics Socio-economic Classification analytic classes

Analytic class		Examples of occupations included
1	Higher managerial and professional	Senior officials in national and local government; directors and chief executives of major organisations, civil engineers, medical practitioners, IT strategy and planning professionals, legal professionals, architects
2	Lower managerial and professional	Teachers in primary and secondary schools, quantity surveyors, public service administrative professionals, social workers, nurses, IT technicians
3	Intermediate	Non-commissioned Officers (NCOs) and other ranks in the Armed Forces, graphic designers, medical and dental technicians, local government clerical officers, counter clerks
4	Small employers and own account workers	Hairdressing and beauty salon proprietors, shopkeepers, dispensing opticians in private practice, farmers, self-employed taxi drivers
5	Lower supervisory and technical	Bakers and flour confectioners, screen-printers, plumbers, electricians and motor mechanics employed by others, gardeners, rail transport operatives
6	Semi-routine	Pest control officers, clothing cutters, traffic wardens, scaffolders, assemblers of vehicles, farm workers, veterinary nurses and assistants, shelf fillers
7	Routine	Hairdressing employees, floral arrangers, sewing machinists, van, bus and coach drivers, labourers, hotel porters, bar staff, cleaners and domestics, road sweepers, car park attendants

ONS(2007)

Data sources for analysis

The following data sources for England and Wales were used in the analysis:

- Counts of deaths by NS-SEC, extracted from death registration data
- The LFS-based populations derived from the weighted LFS datasets
- ONS mid-year population estimates by age group, used in the analysis as control totals

The LFS, which is designed to provide information on the UK labour market, collects detailed data on occupation for a sample of approximately 60,000 households in the UK each quarter. Respondents are interviewed five times, at 13-week intervals. Interviews are carried out mostly by telephone, although the first interview is face-to-face. LFS data are available at national, regional and local authority levels. Results from the survey are weighted to ONS estimates of the private household population (ONS 2009).

Analytical approach

In this study, estimates of mortality rates by NS-SEC were produced using deaths by five-year age-bands extracted from the death registrations (numerators) and population estimates based on the LFS (denominators).

The numerators were adjusted to correct for a misallocation of deaths identified by White *et al.* (2007). This study found that a number of deaths were likely to have been misclassified as NS-SEC class 3 (Intermediate) rather than NS-SEC class 2 (Lower managerial and professional). This was because some death registration entries did not record that the individual concerned had a supervisory role. Examination of the ONS Longitudinal Study (LS) revealed that there was evidence from the census that these individuals had indeed been supervisors, and therefore should have been classified as NS-SEC class 2. The proportions suggested in White *et al.* (2007) were used to correct for this misallocation.

The population figures (denominators) were obtained using the LFS and adjusted to compensate for the effect of health selection. Many authors (Fox *et al.* 1985, Blane *et al.* 1993) have commented on this phenomenon which is a particular problem for mortality analysis. The hypothesis is that health status influences socio-economic status, leading to a selection out of the labour market of those in poor health, which may have a disproportionate effect across the 'analytic' NS-SEC class denominators (those relating to specific groups of occupations).

The process of adjustment for health selection follows that described in Johnson and Langford (2010). In brief, the process has two phases. Firstly, an estimate was made of the total number of people currently unclassified by NS-SEC that should be redistributed to the 'analytic' NS-SEC classes. This was done by calculating the difference between the total LFS population and the ONS mid-year population estimates for each specific calendar year and five-year age-band. The percentages that should remain unclassified were estimated using Table 1 in White *et al.* (2007), and adjusted by growth rates in LFS populations for subsequent years. These two estimates were

then combined to estimate the number of people currently unclassified that should be redistributed across 'analytic' NS-SEC classes.

Secondly, the distribution by NS-SEC to be applied in the reallocation was based on Table 2 in White *et al*. (2007). This table compares the distribution by NS-SEC of LS members produced using 2001 occupational details with a distribution where 1991 occupational details have been used if 2001 details were missing. The difference between these two distributions was used to determine the reallocation of those persons deemed to be affected by health selection.

Using adjusted death and population estimates, age-specific mortality rates were then calculated as well as age-standardised mortality rates for each class and year. The European standard population was used for standardisation.

Estimates of the variances were calculated taking into account the variance of the death counts, the sampling variance of the LFS population estimates and the additional variation associated with the health selection adjustments. Confidence intervals and standard statistical tests were carried out assuming normality of the estimated rates.

Outcome measures

For each year age-standardised rates for each NS-SEC class were calculated. To examine inequalities, two types of indicators were considered, absolute and relative. Absolute indicators measure the difference between the least and most advantaged in terms of the number of deaths per person year. Relative indicators measure inequality as a ratio of the mortality rate of the least to the most advantaged. An illustration of the difference between absolute and relative measures is given in Box 2.

As a result of the different potential interpretation of absolute and relative measures of inequalities, it was decided to produce indicators of both absolute and relative inequality. Three indicators of absolute inequality were calculated. The first indicator was simply the difference in mortality rates between the least and most advantaged NS-SEC classes, using the broad three-class schema. Thus this indicator was the difference between the mortality rates for the 'Managerial and professional' class and the 'Routine and manual' class. The second indicator adopted a similar approach, but was based on the more detailed seven-class version of NS-SEC, and was therefore the difference between the mortality rates of the 'Routine' class and the 'Higher managerial and professional' class (NS-SEC class 7 and 1).

Box 2 The difference between absolute and relative measures

To illustrate the difference between the two types of measures consider the following hypothetical example where the mortality rate for the 'Routine' class (NS-SEC class 7) is 500 deaths per 100,000 person years, and the mortality rate for the 'Higher managerial and professional' class (NS-SEC class 1) is 100 deaths per 100,000 years. Imagine that the rates change to 450 deaths and 75 deaths respectively. In absolute terms of deaths per 100,000 person years, the gap between the most and least advantaged classes is 400 in the first instance (500–100) and 375 in the second instance (450–75). This implies that the inequality, in terms of the absolute number of deaths involved, has reduced.

In the same hypothetical example, however, the deaths in the 'Routine' class are five times as high (500/100) as those in the more advantaged class. In the second instance the relative inequalities imply that mortality rates of the disadvantaged are now six times as high (450/75). So inequality in relative terms has become larger.

In this example the reduction in mortality rates for the more advantaged class, the 'Higher managerial and professional' class has been small in terms of the number of deaths (25 deaths) compared to the reduction achieved in the 'Routine' class (50 deaths). But because the more advantaged class starts at a much lower level the percentage improvement is large (25 per cent) compared to the percentage improvement in the 'Routine' class (10 per cent). Thus because the more advantaged class is at a lower level it is much harder to achieve similar percentage reductions in the more disadvantaged class, and hence maintain the relative gap.

Some authors (Mustard and Etches 2003, Wagstaff *et al.* 1991) have criticised these types of indicators as being based solely on the extremes of the socio-economic scale and recommend indicators that use all of the available data. The third indicator, the slope index of inequality (SII), uses all of the available data to model the difference between mortality rates of those with the hypothetically lowest and highest socio-economic position. (More detail of the calculation method is given in Box 3) All three indicators are measures of absolute inequality and are calibrated in terms of differences in the numbers of deaths per head of population among the NS-SEC classes.

Three indicators of relative mortality were also calculated. The first was the ratio of the mortality rate of the least to the most advantaged NS-SEC class, using the broad three-class schema. Thus the first indicator was the ratio of the mortality rates of the 'Routine and manual' class to that of the 'Managerial and professional' class. The second indicator was similar, but based on the more detailed version of NS-SEC and was the ratio of the mortality rates of the 'Routine' class and the 'Higher managerial and professional' class (NS-SEC class 7 and 1). The third indicator is an analogous measure to the SII, the relative index of inequality (RII). This indicator takes into account the intervening classes, in addition to the most and least advantaged classes. (More detail of the calculation method is given in Box 3) All three indicators are relative measures of inequality and compare the position of the more disadvantaged groups in terms of the more advantaged group.

Box 3 The calculation of slope and relative index of inequality (SII and RII)

These indices were calculated following the method described in Sergeant and Firth (2006)

The socio-economic groups were ordered, from lowest to highest socio-economic status. The fraction of the population in class i or lower was calculated (c_i), thus c_i represents the cumulative proportion in class i or lower. Each group was then assigned a median social rank

$$x = (c_i + c_{i-1}) / 2$$

The mortality rate for each class, y, was then regressed against the median social rank, using group population totals as weights, yielding a straight line estimate

$$y = a + bx$$

The slope index of inequality (b) represents the difference in mortality rates between the highest and lowest on the socio-economic scale. (As calculated, b is negative, but has been reported as positive for ease of presentation.) The RII was then calculated as $a / (a + b)$ and thus represents the ratio of mortality rates of the least advantaged to the most advantaged.

Comparisons with other results

The mortality rate of the most disadvantaged class, the 'Routine' class, was compared against statistics published by the Department of Health (2009) on the all-cause all-age mortality of the 'Spearhead' areas. Although covering different geographic areas and different ages, both measures attempt to capture the mortality experience of the most disadvantaged, and should therefore exhibit comparable behaviour over time.

Another series, published by the Department of Health (2009), is the all-cause all-age mortality for England. This was compared with the aggregated all-class mortality rate based on the models used to construct the slope and relative index of inequality. Again the behaviour of these two series over time should be consistent, and should help validate both the underlying model and the results.

The final comparison made was between the results produced here for 2001–03 and those produced by White *et al.* (2007) where mortality rates were calculated using the Census 2001 data as the population denominator. The pattern of mortality over the socio-economic classes should be comparable.

Results

The age-standardised mortality rates for are displayed in Table 1, Table 2 and Figure 1.

Figure 1 demonstrates that for each class there has been a steady decrease in mortality rates over the period 2001–08. An estimate of the average annual improvement for each class was obtained by fitting a simple linear regression model against time for each class. Table 3 shows the average annual improvement (with standard errors) for each class.

The rate of decrease in terms of deaths per year was between four and eight deaths per 100,000 men aged 25–64 per year for all classes except the 'Routine' class where the improvement is of the order of 11 deaths per 100,000 per year, significantly higher than most other NS-SEC classes. This reduction equates to a total across all classes of just over 1000 fewer deaths per year in England and Wales, of which approximately 200 are of men in routine occupations.

Figure 1 **Age-standardised mortality rates by NS-SEC for 2001–08, men aged 25–64**

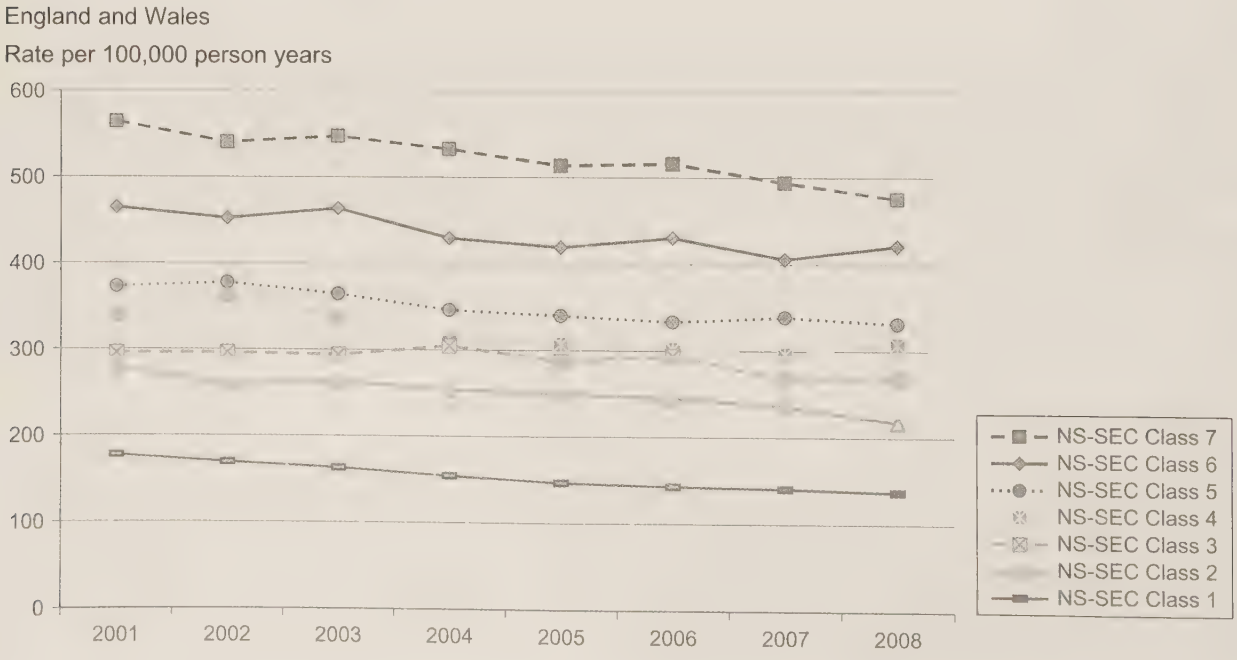


Table 1

Age-standardised mortality rates[1] and annual changes[2] in mortality rates by seven-class NS-SEC for 2001–08, men aged 25–64

England and Wales

	NS-SEC analytic class						
	1	2	3	4	5	6	7
2001	178	280	296	339	373	465	564
2002	169	259	296	362	377	452	541
change	-8	-21	0	22	4	-13	-24
2003	163	263	294	338	364	464	547
change	-6	4	-2	-24	-13	12	7
2004	154	254	305	313	346	430	533
change	-9	-9	11	-25	-18	-34	-15
2005	147	249	287	307	340	419	514
change	-8	-4	-17	-7	-7	-10	-19
2006	143	245	294	302	333	430	516
change	-4	-5	7	-5	-7	11	2
2007	141	236	268	296	339	406	494
change	-2	-9	-26	-6	6	-25	-22
2008	137	217	268	307	331	421	476
change	-4	-19	0	11	-8	15	-18

Rates are statistically significantly higher than the previous year

Rates are statistically significantly lower than the previous year

1. Rates are directly standardised to the European standard population. Numerators and denominators have been adjusted as described in the article.

2. Change is the difference from the age-standardised mortality rate of the same NS-SEC class in the previous year.

Table 2

Age-standardised mortality rates[1] and annual changes[2] in mortality rates by three-class NS-SEC for 2001–08, men aged 25–64

England and Wales

Rate per 100,000

	NS-SEC analytic class		
	Managerial and professional	Intermediate	Routine and manual
2001	232	328	466
2002	217	345	456
change	-15	17	-10
2003	215	327	457
change	-2	-18	1
2004	206	311	435
change	-9	-16	-22
2005	199	302	422
change	-7	-10	-12
2006	196	300	425
change	-4	-2	3
2007	190	289	412
change	-6	-10	-13
2008	178	297	407
change	-12	8	-4

Rates are statistically significantly higher than the previous year

Rates are statistically significantly lower than the previous year

1. Rates are directly standardised to the European standard population. Numerators and denominators have been adjusted as described in the article.

2. Change is the difference from the age-standardised mortality rate of the same NS-SEC class in the previous year.

Table 3 Estimated annual decrease[1] in mortality rate by NS-SEC and year, men aged 25–64

Rate per 100,000

	NS-SEC	Estimated annual decrease	Standard error
1	Higher managerial and professional	-5.9	0.5
2	Lower managerial and professional	-7.2	0.9
3	Intermediate	-4.1	1.4
4	Self-employed and own-account	-7.9	2.1
5	Lower supervisory and technical	-6.9	1.1
6	Semi-routine	-7.7	1.8
7	Routine	-11.5	1.2

1. Annual decrease estimated from a simple linear regression against time for the period 2001–08.

Inequalities

Absolute measures

Table 4 presents three measures of absolute inequality. The three measures are presented graphically in Figure 2, indexed to 2001=100 to aid the comparison of trends.

Table 4 Measures of absolute inequalities in mortality rates of NS-SEC classes by year, men aged 25–64

England and Wales

Rate per 100,000

	Absolute difference of mortality rates[1] between 'Managerial and professional' and 'Routine and manual' class	Absolute difference of mortality rates[1] between 'Higher managerial and professional' and the 'Routine' class	Slope index of inequality
2001	233	387	416
2002	239	371	415
2003	241	384	421
2004	228	378	403
2005	223	367	392
2006	229	373	402
2007	222	353	386
2008	229	339	392

1. Mortality rates are age-standardised to the European standard population. Numerators and denominators have been adjusted as described in the article.

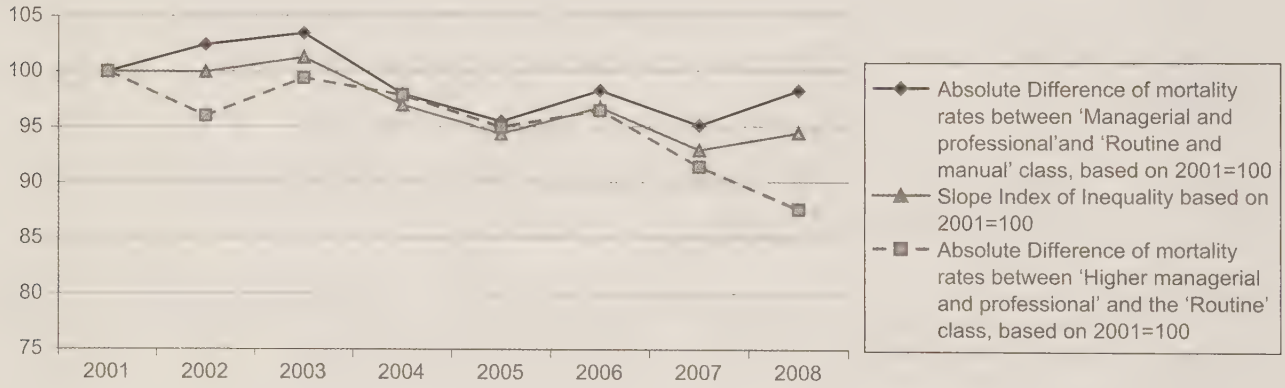
The variation in the measures is explained by the size of the groupings involved. The difference between the mortality rate of those in the 'Managerial and professional' class and those in the 'Routine and manual' class is based on the three-class NS-SEC schema, while the second indicator is based on a seven-class NS-SEC schema. Although the slope index of inequality is based on all the data, it models the difference between the hypothetically lowest and highest person on the socio-economic scale. As a result, this measure presents the difference between the theoretical extremes of the measure and thus will always be greater than those based on whole NS-SEC classes.

All three measures agree that, in terms of the absolute numbers of deaths per 100,000, inequalities decreased over the period. Figure 2 presents the three measures indexed to 2001=100 to enable a visual comparison of the rates of decrease. The difference between those in higher managerial and professional occupations and those in routine occupations appears to be more volatile. This measure also shows the steepest decline, but this is mainly due to the behaviour of the series in 2008 (Table 1).

Figure 2 **Measures of absolute inequalities in mortality rates of NS-SEC classes by year, men aged 25–64**

England and Wales

Index: 2001=100



The absolute difference between the mortality rates of the 'Managerial and professional' class and those in 'Routine and manual' class, and the slope index of inequality both behave in a similar manner. The downward trend of the slope index of inequality is statistically significant, with the largest annual reductions occurring in 2004 and 2007.

Relative measures

Table 5 presents three measures of relative inequality. The three measures are presented graphically in Figure 3, indexed to 2001=100 to aid the comparison of trends.

Table 5 **Measures of relative inequalities in mortality rates of NS-SEC classes by year, men aged 25–64**

England and Wales

	Ratio of mortality rates[1] between 'Managerial and professional' and 'Routine and manual' class, based on 2001=100	Ratio of mortality rates[1] between 'Higher managerial and professional' and the 'Routine' class, based on 2001=100	Relative index of inequality
2001	2.0	3.2	4.1
2002	2.1	3.2	4.4
2003	2.1	3.4	4.6
2004	2.1	3.5	4.7
2005	2.1	3.5	4.7
2006	2.2	3.6	5.1
2007	2.2	3.5	5.0
2008	2.3	3.5	5.4

1. Mortality rates are age-standardised to the European standard population. Numerators and denominators have been adjusted as described in the article.

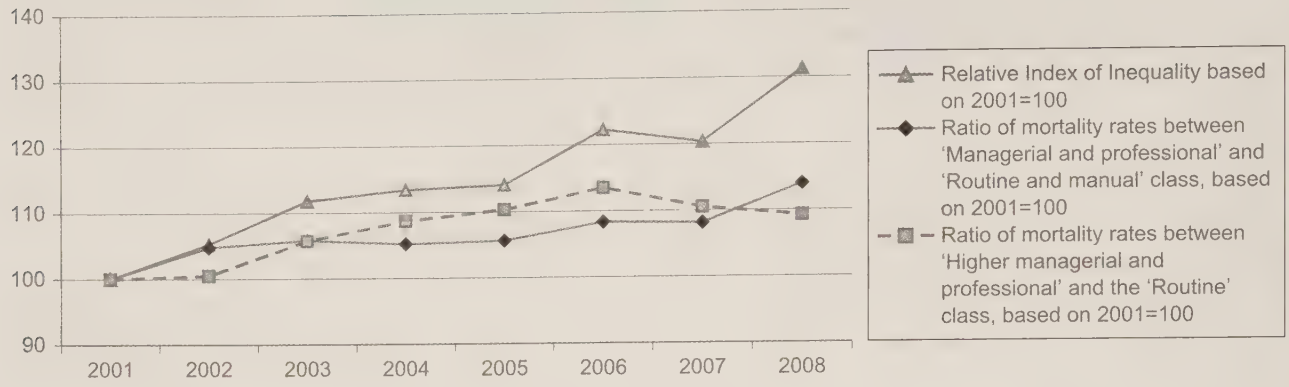
Once again, the variation in the magnitude of the measures is explained by the size of the groupings involved. The ratio of the mortality rates of the 'Routine and manual' class to that of the 'Managerial and professional' class is based on the three-class NS-SEC schema. The second indicator is based on a seven-class NS-SEC schema. The third indicator uses all the data to model the difference between the hypothetically lowest and highest person on the socio-economic scale. As the size of the groups at the two extremes compared decreases, so the relative difference can be expected to increase.

All indicators agree on an increase in relative inequalities in the period. All show a statistically significant rise over the whole period. The pattern of the rises of the ratio of the mortality rates of the 'Routine and manual' class to that of the 'Managerial and professional' class is similar to the pattern of the relative index of inequality (Figure 3). Both show greater rises in inequalities in 2006–08 than in 2003–05.

Figure 3 Measures of relative inequalities in mortality rates of NS-SEC classes by year, men aged 25–64

England and Wales

Index: 2001=100



Longer-term trends

As an indication of longer-term trends, the mortality rates were smoothed by taking a simple rolling three-year moving average of the age-standardised mortality rates (Figure 4). All classes show a steady decline in mortality rates over the whole period.

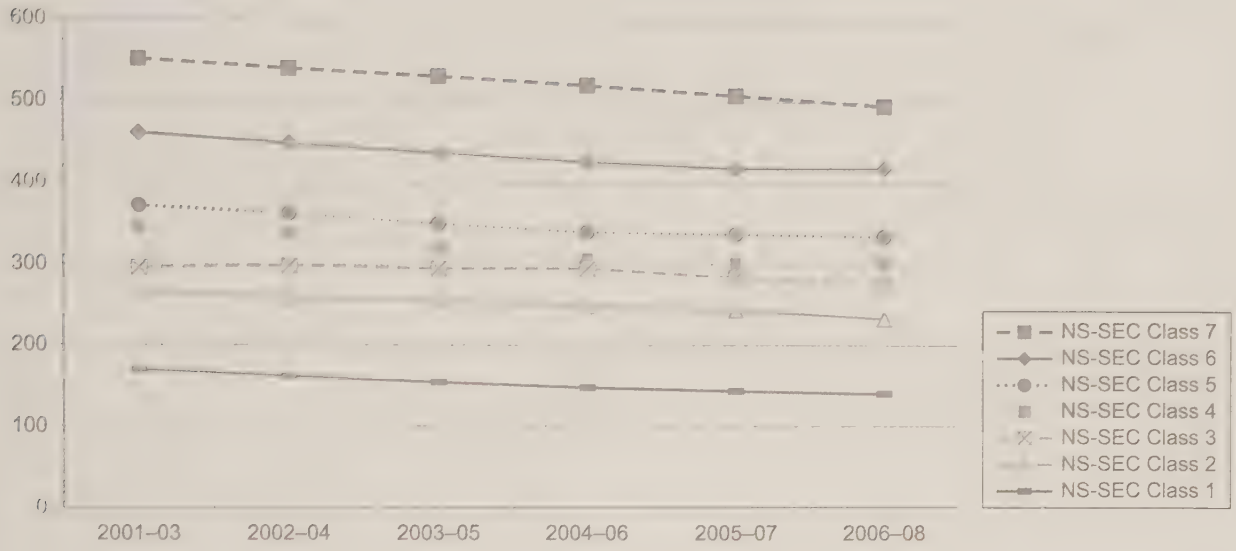
Comparison with other measures

The results above can be compared with statistics published by the Department of Health (2009). For example Figure 5 shows the mortality rates of the 'Routine' class from the present study, and those of the Spearhead Group in England, indexed to 2001 for ease of comparison. Figure 6 shows the overall all-class mortality rate, as calculated from our results, against the male all-age all-cause mortality for England, again indexed to 2001=100. Both figures demonstrate that the changes observed over time in the mortality rates presented above are consistent with data published by the Department of Health to monitor the 2010 National Target (Department of Health 2009).

Figure 4 Three year simple moving averages of age-standardised mortality rates[1] by NS-SEC, men 25–64, 2001–08

England and Wales

Rate per 100,000 person years

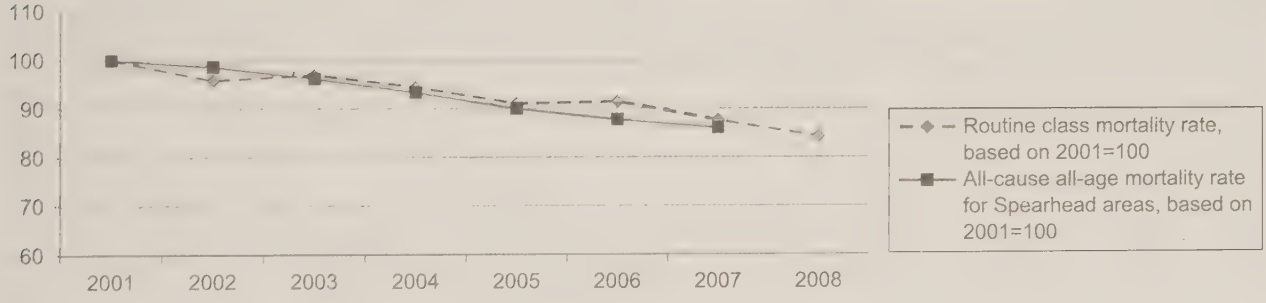


1. Rates are directly standardised to the European standard population. Numerators and denominators have been adjusted as described in the article. Moving averages calculated as the average of the three individual years.

Figure 5 Comparison of the age-standardised mortality rate for the Routine class[1] with all-cause all-age mortality of the 'Spearhead' areas[2]

England and Wales

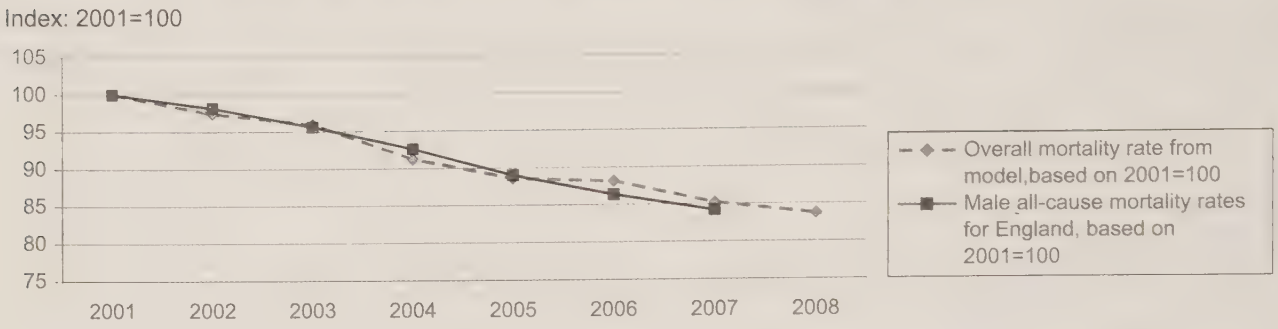
Index: 2001=100



1. Rates are directly standardised to the European standard population. Numerators and denominators have been adjusted as described in the article.

2. Three year centred averages as published in Department of Health (2009)

Figure 6 Comparison of the aggregated model-based mortality rate[1] with all-cause all-age mortality for England[2]



1. Overall mortality rates for all NS-SEC analytic classes, estimated from the weighted regression models used to calculate SII and RII.

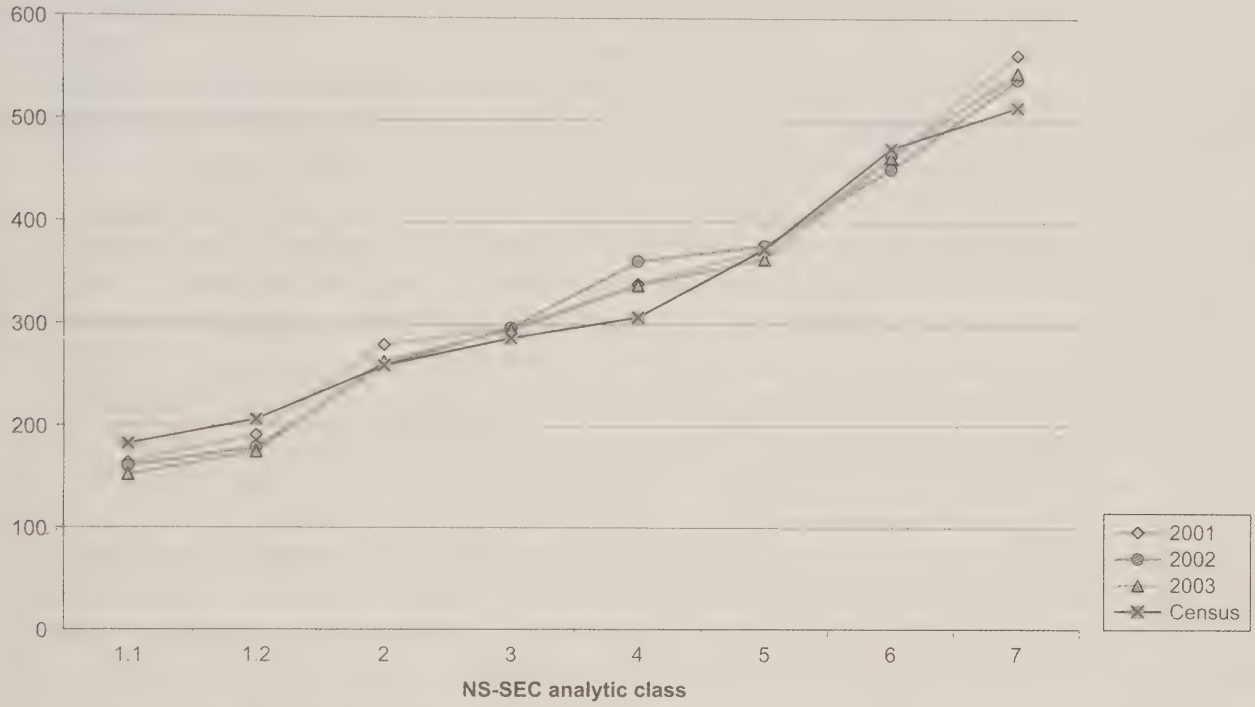
2. Three year centred averages as published in Department of Health (2009)

The previous methodological paper (Johnson and Langford 2010) discussed the differences between the census and provisional estimates produced using the LFS. That study used the three-year period 2001–03 as opposed to single years and concluded that there seemed to be a systematic pattern for the LFS-based estimates to underestimate mortality for the 'Higher managerial and professional' class and, to a lesser extent, the 'Semi-routine' class. That study also found a systematic overestimate for the self-employed (NS-SEC Class 4) relative to the census-based estimates. Figure 7 compares the results of the current study for 2001, 2002 and 2003 with the census-based estimates for 2001–03. Mortality rates for the 'Higher managerial and professional' class were again lower than those produced based on the Census, and rates for the self-employed were higher for all three years. Thus the results presented here are similar to the census-based estimates, but there are some systematic differences. However, the relative ratios were very similar when based on the three-class NS-SEC schema. (2.0, 2.1, 2.1 for 2001–03 respectively, as compared to 2.0 for the census-based estimates).

Figure 7 **Comparison of age-standardised mortality rates by NS-SEC for 2001, 2002 and 2003[1] with those produced using denominators based on the 2001 Census[2]**

England and Wales

Rate per 100,000 person years



1. NS-SEC analytic class 1 has been broken down into its two component classes: 1.1 Higher managerial and 1.2 Higher professional

2. From White C *et al.* (2007)

Discussion

Use of absolute and relative indexes for the measurement of inequality

The results show that there has been a steady decrease in mortality rates for all classes over the period, 2001–08. In particular, the 'Routine' class experienced a reduction in mortality rate almost double that of those in the 'Higher managerial and professional' class. Absolute differences in mortality between classes (that is, the difference between the least and most advantaged as measured in the number of deaths per 100,000 person years) have shown a small decline. On the other hand, relative differences (that is the difference between the least and most advantaged expressed as a multiple of the mortality rate of the most advantaged) increased over this period.

The results presented here suggest that absolute and relative measures can and do move in opposite directions. This phenomenon has been discussed in the literature, although perhaps not sufficiently, given its importance.

Victora *et al.* (2000) stated that relative scales are more appropriate for the study of inequalities because they take into account baseline levels. They pointed out that the use of absolute measures will almost 'inevitably lead to an apparent reduction in equality gaps'. Fryers (2009) in a

discussion paper for the Marmot Review also drew attention to the inadequacy of absolute measures when examining gaps between classes.

By contrast, both Mustard and Etches (2003) and Bartley (2004) suggested that, in terms of public health planning where the objective is to maximise the population impact of a health policy investment, it might be preferable to use absolute differences rather than relative differences. A policy which achieves a large relative reduction in inequality, might only deliver a small difference in the overall number of lives saved. Bostrom & Rosen (2003) have also pointed out that relative measures can be problematic. They quote the example of Sweden in a cross-sectional European comparison where, although the most disadvantaged had a lower mortality rate than in any other European country studied, the relative inequality was higher than in some other countries.

Scanlan (2000) argued that increasing relative inequalities are 'nearly inevitable' when overall mortality falls. The question of whether variations in relative measures are a mathematical artefact was addressed by Eikemo *et al.* (2009). They concluded that there was some empirical evidence that higher relative inequalities were associated with lower overall levels. Houweling *et al.* (2007), in a cross-national analysis of child health, also found that the magnitude of relative differences were empirically related to the overall level of the outcomes. However Houweling *et al.* (2007) also found that absolute inequalities tend to be low at both very high and very low overall levels. Thus it would appear that there is a strong association between low mortality rates and high relative inequalities, but it is not impossible to achieve a reduction in relative rates when overall mortality rates are falling.

Mackenbach and Kunst (1997) recommended that both types of indicators should be used to measure inequalities. Other authors (Houweling *et al.* 2007, Bostrom and Rosen 2003) concurred that both measures can be meaningful, but warned that the overall level of outcome must be taken into account. The Marmot Review (2010) also advocated using both type of measure, and warned of perverse incentives if a single indicator alone was used.

In summary, the choice of measure should depend upon the purpose and caution is required in the interpretation of both relative and absolute measures.

'Range' or 'slope' measures?

Another issue raised by these results concerns the question of whether to use simple measures of the 'range' between the extremes of the class distribution or so-called 'slope' measures which take into account the size and mortality rates of all classes but are consequently more complex. Wagstaff *et al.* (1991) were unequivocal in their endorsement of 'slope' measures. Most other authors including The Marmot Review (2010) and Mackenbach and Kunst (1997) advocate the use of both 'simple' measures and slope or regression based ones. The latter state that: 'The study of socio-economic inequalities in health frequently aims at informing policy-makers who are quite right in preferring simple and straightforward measures. Nevertheless, it is true that the "range" measure ignores the experience of the in-between social groups and that the results of the easily comprehensible "range" measure should be checked against the results of...the regression-based effect indices'. This remains a sensible approach.

Of the absolute and relative measures of inequality presented, those using the three-class version of NS-SEC are more stable than those using the seven-class. If a simple measure of inequality is required for annual comparisons it would appear that the indicators based on the three-class NS-SEC should be recommended. If however policy-makers wish to concentrate on changes affecting the 'Routine' class in particular, this would suggest using the full range of NS-SEC.

Suitability of the LFS-based measures for monitoring health inequalities

Most high-level health inequalities targets have been set in terms of geographical areas rather than individual characteristics. For example, the Department of Health set its life expectancy targets based on the difference between the Spearhead local authorities and England as a whole. Area-based targets are subject to the 'ecological fallacy', whereby variations in deprivation among individuals within the deprived areas are ignored. Under such a system, an apparent improvement might be achieved by only the most affluent individuals within the target areas gaining benefit from a particular initiative, or by the movement of more and less advantaged individuals between areas. The reason that geographical measures are chosen is usually that individual characteristics such as NS-SEC are not available at the local level. The analysis presented here represents an attempt to use individual-based data, thus avoiding the ecological fallacy, albeit based on a sample of the population.

The overall interpretation of the indicators presented here would be similar to all-age all-cause mortality which is sometimes used as a proxy measure for the life expectancy target (Department of Health 2009). Figures 5 and 6 suggest that the 'Routine' class mortality rate has moved in line with that of the Spearhead areas and overall all-class mortality rate has had a similar trajectory to the all-cause all-age mortality rate.

The other high level monitoring tool for mortality in England based on individual records is the series showing trends in life expectancy by social class (ONS 2007). This used the ONS Longitudinal Study (LS) to produce life expectancies for five-year periods between 1972 and 2005. This has been the most useful long-term measure of life expectancy by social class for England and Wales, but is subject to a time-lag in the linkage of vital events data to the study. Therefore the proposed series based on the LFS would be as timely as any based on annual deaths and more timely than an LS based series.

The LFS based series, however, could not be used for monitoring local area changes in health inequalities below regional level. In the previous article in this series (Johnson and Langford 2010), a test was undertaken to determine whether use at local authority level would be feasible. It was concluded that the confidence intervals for a typical unitary authority would be approximately +/-34 per cent around the estimated mortality rate for a class – too great to be of use as a monitoring tool.

Finally, the purpose of any indicator should not be lost sight of. Fryers (2009) distinguished between health indicators and performance indicators. The former are metrics which describe the situation and allow the monitoring of whether things are improving or deteriorating, but may not be directly controllable by organisations seen as responsible for the target. Performance indicators describe how well or badly organisations have performed in delivering objectives. The measures described in this article are high-level health indicators and, as such, could be considered to be at

least as useful as the current geographically based ones, provided they are used at national or regional level.

Limitations of the analysis

The results presented are dependent on the LFS as a source of population denominators and thus, any changes in LFS methodology over the time period could have affected the results. There have been changes in the LFS over the period studied. For instance, sample sizes have changed with boosts introduced for Wales in 2001, with further boosts for English urban areas introduced for 2004 and 2005. This later boost was not used in our analysis as the boost questionnaire did not include questions which allow the allocation of the reduced form of NS-SEC. Sample sizes themselves should not affect mortality rate estimates, but changes in response rates could introduce bias. The response rate on the LFS has changed from 69 per cent in 2001 to 60 per cent in the first quarter of 2008 with high refusal rates in London and in flats and 'mobile' accommodation (Barnes *et al.* 2008). However the weighting system corrects for non-response by local authority, age-group, sex and region and since 2007 uses a methodologically superior calibration weighting process (Thomas *et al.* 2008). The weights calculated in 2007 have been used throughout this analysis, so the results presented above should be consistent.

A number of other assumptions were made during the production of the population estimates. The principal ones were introduced as a result of the health selection adjustment, used to correct for the known bias in the assignment of populations to NS-SEC classes. These were:

- The percentage of those unallocated to an NS-SEC analytic class to be reallocated to an analytic class varies over time in proportion to the numbers in these categories computed using the LFS for the corresponding period

- The distribution across analytic classes of the reallocated population is in the same proportion over time as those derived from tables published in White *et al.* (2007). These redistributions are in the same proportions across all age groups

These adjustments are fully described in Johnson and Langford (2010). If the selection effect on the denominators is changing over time in its effect across the NS-SEC classes, then these assumptions may result in a degree of bias.

There is a case for not making these health selection adjustments. It could be argued that the year-to-year consistency of the LFS would best be maintained by using unadjusted population estimates. However health selection effects are well known, even in cross-sectional analyses, and to ignore them would invite a known bias.

Another assumption made was that those living in communal establishments and not counted by the LFS did not make a substantive difference in the distribution across NS-SEC analytic classes for men aged 25–64. This would appear reasonable, since deaths at communal establishments were only about two per cent of all deaths for men under age 65 and there was no identifiable pattern among analytic NS-SEC classes in the proportion of deaths which were at communal establishments (Johnson and Langford 2010).

Further Work

Further work would be required to provide a similar analysis at regional level. The above analysis shows that producing regional mortality rates by year for each of the seven NS-SEC analytic classes would not be viable. However, the possibilities of providing rates and measures of inequality based on the three-class version of NS-SEC amalgamated over two or three-year periods should be examined.

All the analysis presented in this article has been of mortality in men. Census-based estimates have been produced for women by Langford and Johnson (2009). They used a 'combined' classification whereby the 'most advantaged' NS-SEC of the woman and her husband (if she has one) is used to represent the socio-economic position of the household. To produce estimates using this 'combined' classification based on LFS it would be necessary to link data for women to their husband's data, if such a person existed. This process is not straightforward, but is possible, and hence the methodology above could be extended to provide mortality rates by NS-SEC for women.

Conclusions

The results presented in this article suggest that annual trends of inequalities in mortality for men at the national level can be effectively monitored using LFS-based measures. These measures are based on the socio-economic position of the individual and would complement the use of indicators based on geographic area of residence, such as those based on the Spearhead local authorities.

The results show that there has been a steady decrease in mortality rates for all NS-SEC classes over the period 2001–08. In particular, the 'Routine' class had a decline in mortality rate almost double that of the 'Higher managerial and professional' class.

A number of different indicators were examined, both absolute and relative, and all showed a similar pattern of declining absolute inequalities but rising relative inequalities. This effect was observed when using simple ratios or differences, and when using more complex model-based measures of inequality, It is recommended that, for the sake of simplicity, differences or ratios based on the three-class NS-SEC schema are used as annual headline measures, but that conclusions drawn from these are checked against the more complex model-based measures.

The results show that over the period 2001–08 there has been a small decline in the absolute gap between the mortality rate of the 'Managerial and professional class' and the 'Routine and manual' class. (The gap was 233 deaths per 100,000 in 2001, and 229 deaths per 100,000 in 2008). However, when relative measures were used there was some evidence that inequalities had risen over the same period. In 2001 those in the 'Routine and manual' class had a mortality rate 2.0 times that of those in the 'Managerial and professional' class. In 2008 the same ratio was statistically significantly higher at 2.3.

The absolute gap between the mortality rate of those in the 'Higher managerial and professional' class and the 'Routine' class declined from 387 deaths per 100,000 to 339 deaths per 100,000 in 2001–08. However, the mortality ratio between the two classes increased from 3.2 to 3.5 over the same period.

The pattern of declining absolute inequalities but rising relative inequalities is a well-known phenomenon in the context of declining overall mortality rates. Many authors suggest that both absolute and relative measures should be used to assess inequalities. The results reported here could be used as a basis for high-level indicators of the trend in health inequalities, but not for localised performance targets.

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Life expectancy and disability-free life expectancy estimates for Middle Super Output Areas; England, 1999–2003

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Abstract

Background

In recent years, there has been increasing demand for health indicators at small area level to support monitoring and planning. This study investigates the use of a small area geography, Middle Layer Super Output Areas (MSOAs) for the estimation and comparison of disability-free life expectancy (DFLE) in England.

Methods

Using death registrations from 1999 to 2003 and data on limiting long-term illness from the Census 2001, life expectancy and DFLE are estimated for English MSOAs and Government Office Regions. Figures are presented for quintiles based on MSOA DFLE values, and quintiles of relative deprivation using the Index of Multiple Deprivation 2004. Health inequalities are assessed at regional level and between quintile extremes for both measures.

Results

The distribution of DFLE across MSOAs was characterised by a north-south geographical divide: the highest DFLE at birth for males was in Kensington and Chelsea 016 (73.9 years) and lowest was in Manchester 013 (44.1 years). For females the highest value was in Kensington and Chelsea 012 (74.4 years) and the lowest in Liverpool 039 (48.2 years). Over 40 per cent of MSOAs in the South East, but only about 3 per cent of those in the North East, were in the quintile with the highest DFLE values at birth. Conversely, the equivalent proportions in the quintile with the lowest values were approximately 4 per cent and 50 per cent respectively.

At birth, males in the most affluent areas could expect to spend an additional 12.6 years without a disability compared to those in the most deprived areas. For females this

inequality was 10.9 years. At age 65 inequalities persisted but the differences were narrower.

Conclusions

This is the first use of MSOAs in estimating DFLE, and the results highlight the substantial inequalities between quintile groupings based on DFLE values as well as between the least and most deprived MSOAs in England. These findings provide useful health outcomes information to planners at the local level, for benchmarking purposes and to assist in resource allocation through the identification of differences in relative need between local populations.

Contents

Abstract 33
Introduction 37
Background 37
Methods 38
Results 43
Discussion 62
Conclusions 64
References 65

List of Figures

Figure 1 Middle Layer Super Output Areas in England by DFLE at birth for males, 1999 to 2003 and the Index of Multiple Deprivation, 2004 44
Figure 2 Middle Layer Super Output Areas in England by DFLE at birth for females, 1999 to 2003 and the Index of Multiple Deprivation, 2004 45
Figure 3 Life expectancy (LE) and disability-free life expectancy (DFLE) for males at birth by quintiles of relative deprivation: MSOAs in England, 1999–2003 58
Figure 4 Life expectancy (LE) and disability-free life expectancy (DFLE) for females at birth by quintiles of relative deprivation: MSOAs in England, 1999–2003 58
Figure 5 Proportion of life spent without disability for males by age and quintiles of relative deprivation: MSOAs in England, 1999–2003 59
Figure 6 Proportion of life spent without disability for females by age and quintiles of relative deprivation: MSOAs in England, 1999–2003 60

List of Tables

Table 1	Distribution of MSOAs by DFLE quintiles and Government Office Region, males and females at birth, 1999–2003	46
Table 2	Life expectancy and disability-free life expectancy in the highest and lowest ranked MSOAs: by DFLE, males at birth, 1999–2003	48
Table 3	Life expectancy and disability-free life expectancy in the highest and lowest ranked MSOAs: by DFLE, females at birth, 1999–2003	49
Table 4	Highest and lowest ranked areas by proportion of life spent without disability, males at birth, 1999–2003	51
Table 5	Highest and lowest ranked areas by proportion of life spent without disability, females at birth, 1999–2003	52
Table 6	Median, median absolute deviation and range of DFLE for MSOAs by Government Office Region, males at birth, 1999–2003	53
Table 7	Median, median absolute deviation and range of DFLE for MSOAs by Government Office Region, females at birth, 1999–2003	54
Table 8	Proportion of life spent without disability: by Government Office Region and sex, 1999–2003	55
Table 9	Summary statistics of DFLE quintiles for MSOAs, 1999–2003: males and females at birth	56
Table 10	Distribution of MSOAs by IMD 2004 quintiles and Government Office Regions, 1999–2003	57
Table 11	Life expectancy and disability-free life expectancy: by area deprivation, males and females at birth, and at age 65, 1999–2003	61

Introduction

Health expectancies (HEs) combine mortality and health-related data to produce measures of life spent in various states of health. The Office for National Statistics (ONS) reports two such measures: healthy life expectancy (HLE) and disability-free life expectancy (DFLE) for the UK and its four constituent countries; these measures are important indicators of national health status over time. While differences in HEs between the constituent countries are evident, comparisons at this geographical scale conceal more sizeable differences at finer spatial scales, such as between local authorities, and electoral wards within these authorities.

Reducing inequalities in health is a public health priority; however, there is limited information relating to health expectancies at sub-national levels during inter-censal periods. As the demand for sub-national health metrics, such as HEs, is increasing to assist in the assessment of need, the planning and provision of services, and policy impact monitoring, this limitation represents a significant gap in the available knowledge base.

The most recent analyses reporting sub-national HEs compared electoral wards and local authorities using Census 2001 data (Rasulo *et al.* 2007; ONS report, 2007; ONS report, 2006). However, electoral ward analyses proved particularly problematic due to the substantial variation among wards in population size; for very small wards, this prevents the calculation of meaningful health expectancy estimates.

This report aims to support health-related planning at the small area level by estimating DFLE for Middle Super Output Areas (MSOAs). An advantage of these areas for statistical purposes is their relative homogeneity in population size.

Background

Period life expectancy (LE) is a measure of the expected length of life, based on current mortality rates within a population. By extension, HEs partition LE into years spent in favourable and unfavourable health states. DFLE, which is reported here, divides expected years of life into periods spent with and without disability. This measure reflects the duration of disability before death, and as such better indicates the health status of a population than measures of longevity alone (Rasulo *et al.* 2007).

While national estimates of HEs provide a snapshot of the morbidity experience of a whole population, they do not reveal the heterogeneity of experience within it. As such, favourable averages for large populations may be disproportionately influenced by extremes of health experience within smaller geographical groupings. For example, in the period 2000–2002 (centred on 2001), a four year difference between the highest (61.7 years in England) and lowest (57.7 years in Wales) average DFLE figures at birth for males at national level hides the much greater difference evident at Government Office Region (GOR) level at 7.6 years (ONS, 2006). Similarly, in the period 1999–2003 (centred on 2001) the DFLE differential at electoral ward level was 31 years (ONS, 2007). These contrasts clearly indicate the disparity present at lower level geographies and provide more relevant metrics to support needs assessment, priority setting and monitoring performance of policies targeted at local populations.

Electoral wards (referred to as electoral divisions in Wales) are the building blocks of administrative geography in the UK. Wards have been used extensively in health analysis but there are a number of limitations to their use. While electoral ward level analyses of LE and HE provide additional insight into the scale of health inequalities within larger sub-national areas and nationally, comparison between these geographical areas is problematic due to large variations in population size: for example, ward populations in 2001 ranged from only 995 to 35,767, with a mean of 5,952. In addition, it is difficult to draw comparisons between wards over time as their boundaries are unstable. For example, there were over 3,000 ward boundary changes in England and Wales between 1991 and 2001.

Introduced in England, Northern Ireland and Wales at the Census 2001, Output Areas (OAs) are the smallest geography of the Census 2001. Built from clusters of adjacent postcodes, they were designed to have similar population sizes, have stable boundaries and be socially homogeneous (based on housing tenure and dwelling type). OAs are aggregated into Lower Layer Super Output Areas (LSOAs) with an average population of 1,500 and a minimum population size of 1,000, and Middle Layer Super Output Areas (MSOAs) with an average population of 7,200 people and a range of 5,001 to 15, 326 people.

This article reports DFLE for MSOAs in England based on 2001 Census data. It includes DFLE at birth for individual MSOAs, as well as quintiles of MSOAs based on DFLE values, with 95 per cent confidence intervals for males and females. Individual MSOAs are referred to by the name of the local authority in which they fall, followed by a three digit number. Estimates at birth and at age 65 are also provided for quintile groupings based on a measure of relative area deprivation, the Index of Multiple Deprivation (IMD) 2004. The geographical and deprivation related patterns in health inequalities are described.

Methods

Data Sources

This study uses the Census 2001 for prevalence of limiting long-term illness, and death registration data over the period 1999 to 2003 (centred on 2001). Five years of mortality and population data were pooled in order to achieve the minimum sample size required for the calculation of meaningful LE estimates. Using three years of aggregated data to calculate LE at this small area level, as is practice for national estimates, is likely to result in overestimated LE and wider confidence intervals than desired, because the likelihood of having age bands with no deaths increases as population size decreases.

Measurement of area deprivation

Area deprivation was measured using the Indices of Multiple Deprivation 2004 (IMD 2004) which combines information on seven distinct domains, such as income and employment (Communities and Local Government, 2004). Each domain consists of a number of indicators which relate primarily to data from the Census 2001. The domains were constructed to reflect the different dimensions in which deprivation can be experienced and each can be used alone in analyses relating to the type of deprivation they describe. For the overall index the domains are weighted to reflect their relative importance (see Box 1), then combined to produce an overall deprivation

measure. Each English LSOA was assigned domain-specific and overall IMD scores. For this analysis, the IMD score for each MSOA was derived by taking the mean of the scores for the group of LSOAs making up that particular MSOA. These scores were used to rank and then group MSOAs into quintiles of relative deprivation for further analysis.

Box 1 Index of Multiple Deprivation 2004

Domain	Weight
Income deprivation	22.5%
Employment deprivation and disability	22.5%
Health deprivation and disability	13.5%
Education, skills and training deprivation	13.5%
Barriers to housing and services	9.3%
Crime	9.3%
Living Environment deprivation	9.3%

Source: Communities and Local Government (2004)

Calculation of life expectancy

Standard abridged life table methods were used to calculate LE (Chiang, 1968). The tables were constructed for individual MSOAs and for each area deprivation quintile using data on all-cause mortality by sex and five-year age bands (0–4, 5–9…85 and over) over the period 1999 to 2003, and the corresponding MSOA level population according to the Census 2001. The population data from the Census 2001 was multiplied by five to derive the number of person-years consistent with the number of years covered by death registrations.

The 95 per cent confidence interval (CI) for each area was calculated using the revised Chiang method (Chiang II), allowing the calculation of the variance of the mortality rates for those age bands with no deaths registered in the analysis period. This method is the approved standard for ONS outputs of life expectancy at sub-national level (Toson and Baker, 2003).

Calculation of disability-free life expectancy

DFLE was calculated using the Sullivan method (Jagger, 1999). For each MSOA and area deprivation quintile, the prevalence of self-reported absence of disability by sex and for each five-year age band was calculated from the responses to the limiting long-term illness question at the Census in 2001 (See Box 2). The prevalence rates were multiplied by the corresponding person-years lived during a given age interval to calculate the total person-years lived in that age interval

without disability. DFLE at a particular age interval was then calculated by adding up the persons-years lived without disability from that age interval to the final interval, divided by the number of people surviving to the age interval from the size of a synthetic cohort assumed at birth.

Estimates of LE and DFLE at birth and at age 65 were also calculated at the person level.

Box 2 Census 2001 question on Limiting Long-term Illness:

Do you have any long-term illness, health problem or disability which limits your daily activities or the work you can do? Include problems which are due to old age: Yes/No

Mortality rates and the prevalence of disability were calculated using the Census 2001 population as a proxy for annual mid-year population estimates (MYPE) since the latter are not available at MSOA level for all the years included in the deaths registrations.

MSOAs were ranked according to DFLE values (highest to lowest) and non-overlapping 95 per cent confidence intervals were used to judge significant differences between them.

Distribution of DFLE at birth and of MSOAs within IMD Quintiles

To assess the geographical distribution of DFLE at birth, MSOAs were ranked according to descending DFLE values and divided into five distinct groupings (quintiles), such that the fifth of MSOAs with the highest DFLE were in quintile 1 while those with the lowest were placed in quintile 5. For each quintile, the proportion of MSOAs within regions was examined. Similarly, the distribution of MSOAs within regions was examined for each area deprivation quintile.

Measures of inequality in DFLE

England

Two approaches were used to assess health inequalities across England. First, for each DFLE quintile described above, the median LE and DFLE values were calculated. Then the gap in DFLE and DFLE relative to LE between quintile extremes was used to assess the inequality in DFLE and in the proportion of life spent without disability respectively. The second approach provides a measure of deprivation-related health inequality by comparing DFLEs at birth and at age 65 in the least deprived and most deprived fifths of MSOAs.

Comparisons were drawn between quintile extremes using the median DFLE instead of the mean, since outliers have a biasing effect on the latter, that is they disproportionately 'inflate' or 'deflate' group means and standard deviations. In addition, the median is more representative of the 'average' LE and DFLE values since the distribution of LE and DFLE within these quintiles is not symmetrical.

Within Government Office Regions

MSOAs were grouped by GOR membership. The median DFLE for each GOR was calculated and the gap between the highest and lowest values was used to assess the level of inequality in DFLE present at regional level. As with DFLE quintiles, the distribution of DFLE within GORs is also skewed and median values provide a more accurate reflection of the 'average' for each region.

Additionally, a comparison of the highest and lowest DFLE values within regions may be distorted by the fact that extreme values are influenced by local factors such as the proportion of an MSOA population living in communal establishments. This influence is likely to affect southern GORs more as they have a higher proportion of people aged 65 and over living in communal establishments compared to the north (author's analysis). To overcome this, the gap between the 5th and 95th percentile DFLE, which contains 90 per cent of MSOAs in each GOR, was used to assess the regional variation in DFLE. The median absolute deviation was also used to examine the degree of within-region variability. This method provides a more robust measure of dispersion compared to the standard deviation because it is more resilient to the effect of outliers.

Issues in the calculation of small area estimates of LE and DFLE

There are two major challenges in producing LE at small area level. First, due to the level of detail of mortality data required to calculate LE, it is very likely that some age bands in some areas will have no deaths. The contribution of these age bands to the variance in mortality is zero and this leads to increases in standard errors and the width of 95 per cent CIs. This is particularly problematic at birth since every age band contributes to the standard error (SE) of LE at birth, which reduces the precision of these estimates and therefore the reliable detection of significant differences between areas.

Toson and Baker (2003), however, showed that SEs for populations of 5,000 and above are not adversely affected by having age bands with no deaths. This population threshold was set by ONS as the standard below which sub-national LE estimates will not be calculated. In contrast to wards, all MSOAs meet this population threshold at the person level, but not for sex-specific populations. For the calculation of LE at birth for each sex therefore, multiplying the 2001 MSOA person-years by five to match the period covered by death registrations provides sex-specific population counts exceeding this threshold. However, from age 65 onwards, the sex-specific population in the majority of MSOAs do not meet the threshold. As such, LE and DFLE at age 65 for individual areas as well as for quintiles of DFLE are not reported in this article.

Second, LE estimates for small areas are likely to lack stability due to random variation in the number of deaths. To minimise the effect of this variation, five years of mortality data (that is 1999–2003) were pooled to ensure a sufficient number of death events. However, since the population count was taken at a single point in time, multiplying each age band five-fold can result in some having deaths but a zero population count.

Methodological adjustments to LE calculations

Not all MSOAs had the full complement of information needed to compute estimates of LE. In MSOAs where there were no deaths or population in the final age band (that is 85 years and over), the calculation of variance was not possible. To overcome this, the equivalent sex-specific mortality

rate in the particular GOR within which these MSOAs are located was inserted into the calculation. Also, where there were deaths but no population or the number of deaths exceeds the population, the number of deaths was assumed to be correct. A population figure was then calculated for the age band in question by dividing the number of deaths in the MSOA by the corresponding GOR death rate. These adjustments were made for males in Tower Hamlets 021, Plymouth 018, St. Edmundsbury 005, and for both sexes and at the person level in Blyth Valley 006.

These adjustments were not applied in three MSOAs for two reasons. First, for males in Basingstoke and Deane 021 and South Oxfordshire 009, there were neither deaths nor populations in the final age band and a decision was taken not to simply impute the GOR specific rate (an assumption would also have to be made for disability status if GOR death rates are imputed). Second, since the person-years lived in the final age band is calculated by dividing the number of survivors in the age band by the corresponding mortality rate, this could not be calculated for Cannock Chase 010 as there were no survivors from age band 80–84 to 85 and over. As previously described, the total person-years lived at a particular age interval, used in calculating DFLE, is dependent on the contribution of person-years lived without disability from that age interval to the final. Thus, in these three MSOAs where person-years were missing in the final age band, DFLE could not be calculated for all age intervals. However, to allow the calculations to proceed in other age bands, the final age bands in these MSOAs were assumed to contribute zero person-years to the total number of person-years lived without disability.

Issues with implausible life expectancy estimates

Visual examination of LE estimates at birth for males and females suggested implausible values in some areas and were treated as potential outliers. These outliers were identified using a box plot which suggested that at birth, LE values below 62.2 for males and above 92.7 years for females were extreme outliers. Although reported in this article, female LE at birth and consequently DFLE in the following MSOAs are treated as outliers: Swindon 018, Gloucester 010, and St. Edmundsbury 005. For males, LE and DFLE at birth in Manchester 009 and Leicester 024 areas are treated as outliers.

On further investigation, outliers above the box plot threshold were found to arise from implausibly low mortality rates in final age bands. Consequently, excessively high numbers of person-years were generated in these age bands and also contributed to the total person-years lived in the younger age bands, thereby overestimating LE at birth. In contrast, outlying areas below the threshold had implausibly high mortality rates in final age bands, fewer person-years than would be expected in their final age bands; the latter resulting in underestimated LE estimates at birth.

Adjustments to the DFLE calculation

Similarly to LE, the calculation of DFLE was not possible where everyone in an age band had limiting long-term illness (LLTI) i.e. the disability-free prevalence rate equals zero or, where no one had a LLTI, i.e. disability-free rate equals 1. Since there is no justification for imputing GOR prevalence rates in these cases, disability-free rates were set at 0.01 and 0.99 respectively. For an example of this practice, please refer to the report in the following link:
www.statistics.gov.uk/downloads/theme_health/HE_wards_report.pdf

A similar approach to that taken in the life tables described above was also used to allow the DFLE calculations to proceed in Basingstoke and Deane 021, South Oxfordshire 009 and Cannock Chase 010.

Results

The detailed DFLE estimates for MSOAs in England (1999-2003) are available on the Office for National Statistics website.

The estimates for males and females can be found here: Males and Females table and for all persons here: All Persons table

DFLE (with associated 95 per cent confidence intervals) and accompanying LE estimates are reported for males and females at birth and at the person level at birth and at age 65. To aid interpretation, these estimates are presented along with contextual variables such as the proportion of the population in each MSOA aged 65 and over living in medical and care establishments and IMD 2004 quintiles of relative deprivation.

Distribution of MSOAs within quintiles based on DFLE values

For both sexes there was a clear north-south geographical divide in the distribution of MSOAs across DFLE quintiles: those with the highest DFLE values were predominantly located in the South East, East of England and South West; those with the lowest values were mainly located in the North East, North West, and Yorkshire and The Humber. Figures 1 and 2 show the DFLE and IMD quintile distribution of English MSOAs.

DFLE for males at birth show that 42 per cent of MSOAs in the South East, 32 per cent in the East of England and 22 per cent in the South West were placed in the quintile with the highest values (quintile 1); but only 3 per cent in the North East and 7 per cent in the North West were in this quintile. In contrast, while 54 per cent of MSOAs in the North East, 38 per cent in the North West and 30 per cent in Yorkshire and the Humber were placed in the quintile with the lowest values (quintile 5), only 4 per cent in both the East of England and the South East, and 7 per cent in the South West were in this quintile. Similar results were observed for females (see table 1).

Figure 1 **Middle Layer Super Output Areas in England by DFLE at birth for males, 1999 to 2003 and the Index of Multiple Deprivation, 2004**

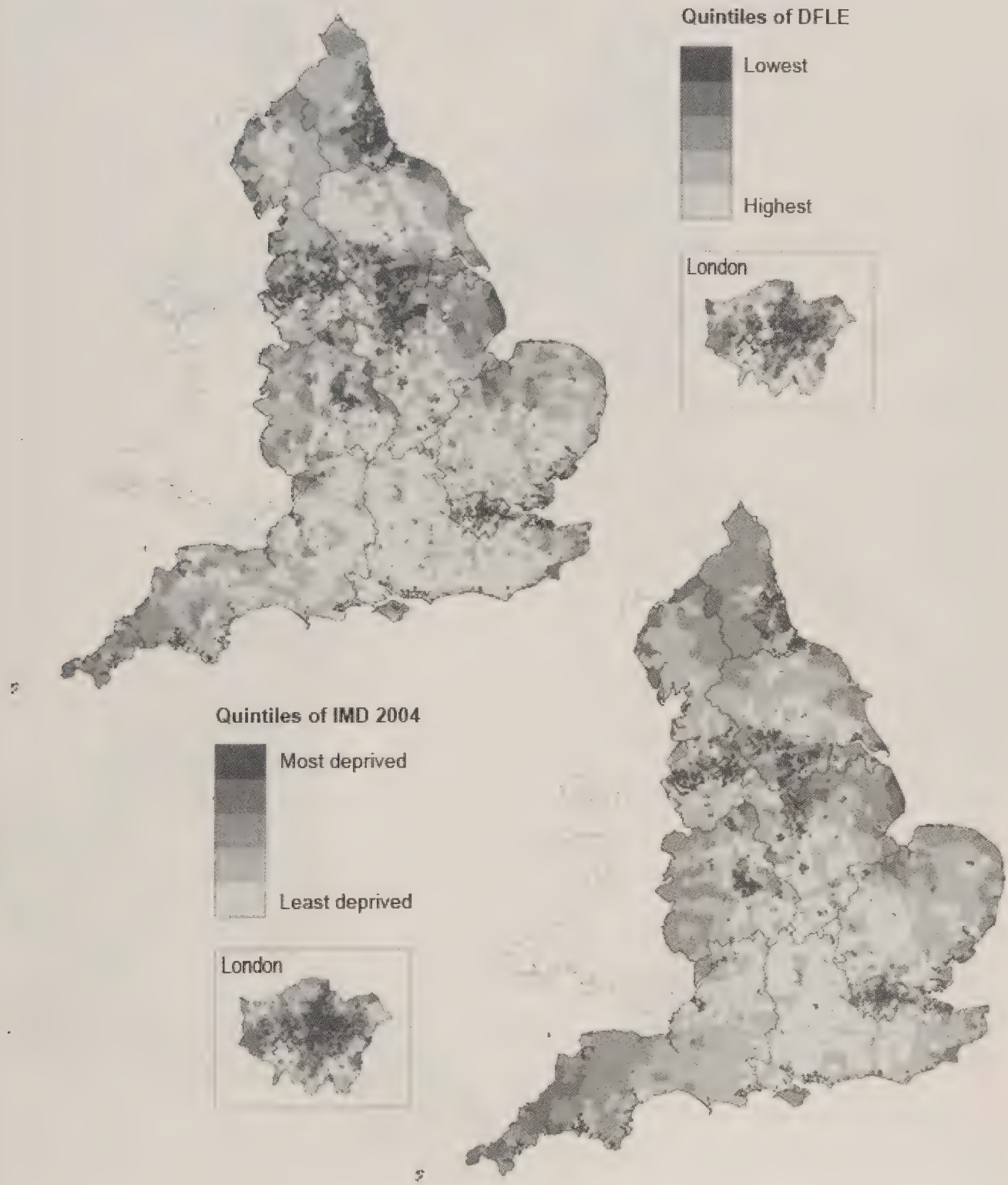


Figure 2 **Middle Layer Super Output Areas in England by DFLE at birth for females, 1999 to 2003 and the Index of Multiple Deprivation, 2004**

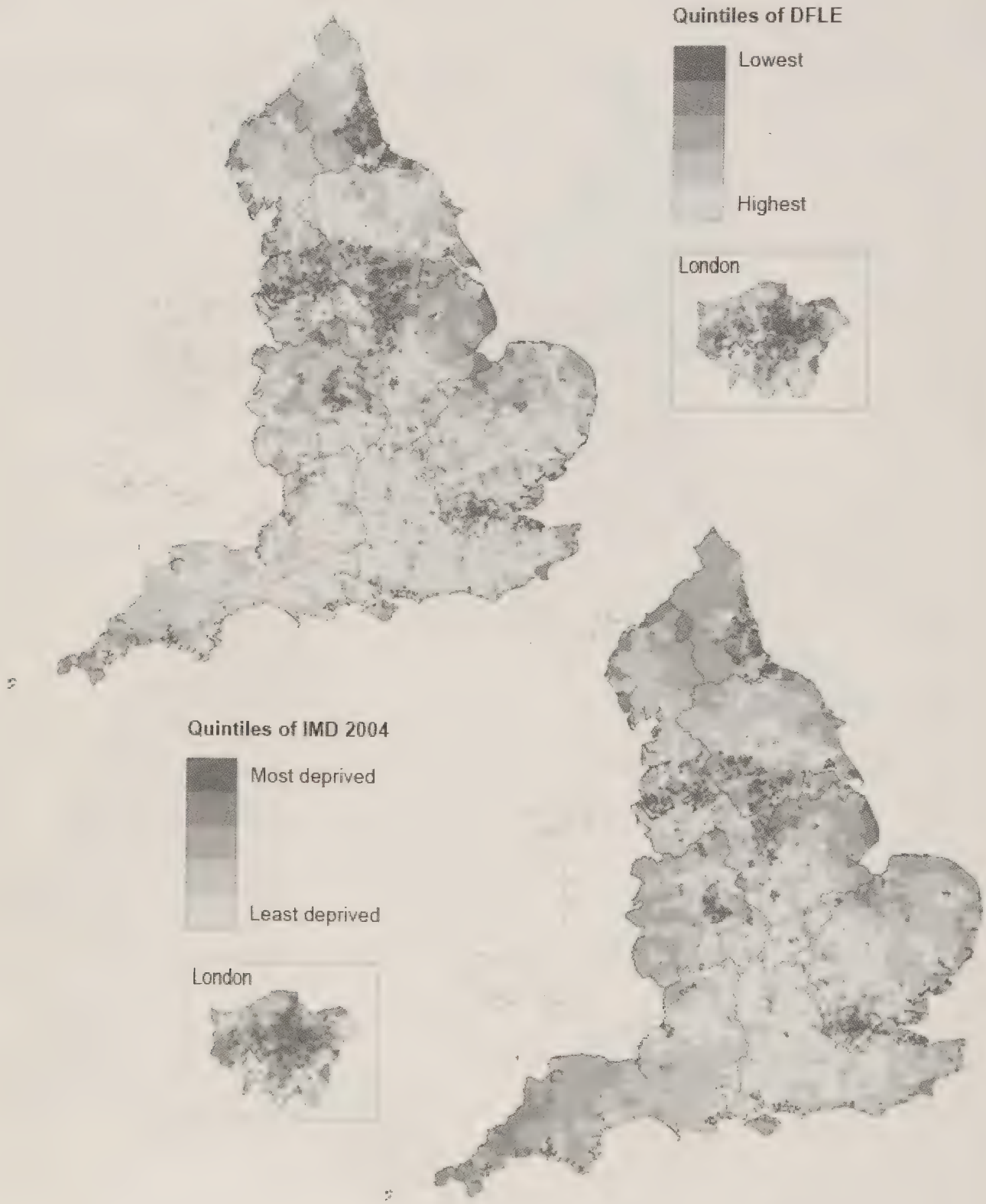


Table 1 Distribution of MSOAs by DFLE quintiles and Government Office Region, males and females at birth, 1999–2003

England

Percentages

	GOR	Quintile 1 (Highest)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (Lowest)
Males at birth	East Midlands	16.6	21.7	20.1	22.1	19.4
	East of England	32.2	29.7	22.8	11.7	3.5
	London	18.0	17.1	19.3	26.3	19.2
	North East	3.2	8.8	12.0	22.5	53.5
	North West	6.6	12.8	17.7	24.5	38.4
	South East	42.0	22.4	18.4	13.2	3.9
	South West	21.7	29.8	25.3	16.4	6.8
	West Midlands	12.0	19.6	18.2	23.9	26.3
	Yorkshire and The Humber	10.4	14.3	23.9	21.0	30.4
Females at birth	East Midlands	13.1	21.0	23.1	22.2	20.5
	East of England	29.6	30.3	23.9	13.2	3.0
	London	16.7	16.5	20.4	25.3	21.1
	North East	3.5	9.1	13.5	23.7	50.3
	North West	7.2	12.3	17.6	23.6	39.4
	South East	43.7	22.2	17.8	12.8	3.5
	South West	26.8	30.2	24.2	14.0	4.9
	West Midlands	10.2	20.1	17.1	25.0	27.5
	Yorkshire and The Humber	11.2	15.1	21.5	23.2	29.0

DFLE at birth in the highest and lowest ranked MSOAs

For the purpose of the following analyses, the highest and lowest ranked areas only refer to the top and bottom ten areas respectively. The rankings exclude areas with outlying LE estimates.

For males DFLE at birth was highest in Kensington and Chelsea 016 (73.9 years). This figure is 29.8 years higher than in Manchester 013, the MSOA with the lowest DFLE at birth (44.1 years). For females DFLE at birth was highest in Kensington and Chelsea 012 (74.4 years) and lowest in Liverpool 039 (48.2 years), a gap of 26.2 years.

Among the highest ranked areas, not all differences between the highest ranked and the other MSOAs within this grouping were significant. For example, while DFLE at birth for males in Kensington and Chelsea 016 was significantly higher than those in Guildford 016, Kensington and Chelsea 012, Bromley 021, Kensington and Chelsea 010, St Albans 005, Guildford 011, Basingstoke and Deane 021 it was not significantly different from those in South Bucks 002, and Westminster 019. Similar results were found among the lowest ranked areas and for females (Tables 2 and 3).

Table 2

Life expectancy and disability-free life expectancy in the highest and lowest ranked MSOAs: by DFLE, males at birth, 1999–2003

England

Years/Percentages

	MSOA	GOR	LE	DFLE	Lower 95% confidence interval	Upper 95% confidence interval
Highest ranked	Kensington and Chelsea 016	London	89.3	73.9	*73.0*	*74.8*
	South Bucks 002	South East	82.8	72.7	*72.0*	*73.4*
	Westminster 019	London	83.1	72.6	*71.5*	*73.8*
	Guildford 016	South East	83.3	72.3	*72.1*	*72.4*
	Kensington and Chelsea 012	London	82.5	72.1	*72.0*	*72.1*
	Bromley 021	London	83.0	71.9	*71.0*	*72.8*
	Kensington and Chelsea 010	London	82.9	71.7	*71.2*	*72.2*
	Guildford 011	South East	81.2	71.6	*71.5*	*71.7*
	St Albans 005	East of England	83.2	71.6	*70.9*	*72.3*
	Basingstoke and Deane 021	South East	77.9	71.2	*71.1*	*71.3*
Lowest ranked	Easington 003	North East	71.2	46.7	*46.2*	*47.2*
	Barnsley 014	Yorkshire and The Humber	72.5	46.6	*46.2*	*47.1*
	Blackpool 007	North West	67.6	46.6	*45.8*	*47.3*
	Bolton 016	North West	65.9	46.5	*45.5*	*47.5*
	Easington 006	North East	72.1	45.7	*45.3*	*46.1*
	Liverpool 023	North West	66.6	45.6	*44.6*	*46.6*
	Liverpool 024	North West	67.1	45.6	*44.6*	*46.6*
	Wirral 011	North West	66.7	45.3	*44.8*	*45.8*
	Wirral 016	North West	66.7	44.4	*43.7*	*45.1*
	Manchester 013	North West	62.5	44.1	*43.2*	*45.0*

Table 3 Life expectancy and disability-free life expectancy in the highest and lowest ranked MSOAs: by DFLE, females at birth, 1999–2003

England

Years/Percentages

	MSOA	GOR	LE	DFLE	Lower 95% confidence interval	Upper 95% confidence interval
Highest ranked	Kensington and Chelsea 012	London	87.1	74.4	*73.7*	*75.0*
	Richmond upon Thames 007	London	87.1	73.8	*73.8*	*73.9*
	Wycombe 020	South East	88.5	73.8	*73.1*	*74.5*
	Kensington and Chelsea 008	London	86.4	73.8	*73.7*	*73.9*
	St Albans 005	East of England	89.0	73.7	*73.6*	*73.8*
	Leeds 001	Yorkshire and The Humber	88.6	73.6	*73.5*	*73.7*
	Kensington and Chelsea 016	London	91.3	73.5	*73.0*	*74.1*
	Waverley 016	South East	86.4	73.4	*73.3*	*73.5*
	Kensington and Chelsea 018	London	87.9	73.2	*73.1*	*73.3*
	Guildford 018	South East	85.5	73.2	*73.0*	*73.4*
Lowest ranked	Manchester 010	North West	72.5	50.8	*50.2*	*51.4*
	Wigan 010	North West	73.8	50.7	*50.3*	*51.2*
	Manchester 013	North West	72.4	50.7	*49.9*	*51.6*
	Liverpool 022	North West	73.1	50.7	*49.8*	*51.5*
	Bolton 016	North West	75.9	50.7	*50.1*	*51.2*
	Liverpool 044	North West	74.1	50.5	*49.9*	*51.2*
	Liverpool 037	North West	73.5	50.5	*50.2*	*50.7*
	Easington 006	North East	76.8	49.9	*49.6*	*50.3*
	Liverpool 024	North West	72.4	49.6	*49.0*	*50.2*
	Liverpool 039	North West	72.5	48.2	*48.0*	*48.3*

Relative DFLE at birth in the highest and lowest ranked MSOAs

As with absolute DFLE, the proportion of life spent without disability was also characterised by a north to south polarity; MSOAs with the highest DFLE relative to LE were predominantly located in the southern GORs and those with the lowest in the north (see tables 4 and 5).

For males relative DFLE at birth was highest in Basingstoke and Deane 021 (91.5 per cent) and lowest in Easington 006 (63.3 per cent). For females at birth, it was highest in Richmond upon Thames 009 (87.5 per cent) and lowest in Easington 006 (65.0 per cent).

Among those areas ranked with the highest absolute DFLE at birth, not all were ranked highest in relative DFLE. In fact for males, only Basingstoke and Deane 021 was ranked highest in both absolute and relative terms. A similar picture occurs for the lowest ranked areas: only Barnsley 018, Easington 006 and Wirral 011 were ranked in the lowest grouping in both absolute and relative DFLE. Thus, areas observed to have much higher or lower absolute DFLE are not always indicative of longer or shorter proportions of life without disability.

For females at birth, none of the highest ranked areas by DFLE were similarly ranked in proportional terms. Among the lowest ranked areas according to absolute DFLE, only Liverpool 039, Bolton 016 and Easington 006 were also ranked lowest in relative terms.

Table 4 Highest and lowest ranked areas by proportion of life spent without disability, males at birth, 1999–2003

England

Years/ Percentages

	MSOA	GOR	LE	DFLE	DFLE as a proportion of LE (%)
Highest ranked areas	Basingstoke and Deane 021	South East	77.9	71.2	*91.5*
	Elmbridge 016	South East	77.9	70.1	*90.0*
	Surrey Heath 005	South East	79.0	70.5	*89.3*
	Elmbridge 011	South East	78.1	69.5	*89.0*
	Woking 002	South East	78.5	69.8	*89.0*
	Basingstoke and Deane 003	South East	77.7	69.0	*88.9*
	Mid Sussex 004	South East	78.3	69.6	*88.8*
	Three Rivers 004	East of England	78.9	70.1	*88.8*
	Elmbridge 005	South East	77.5	68.7	*88.7*
	Richmond upon Thames 008	London	73.6	65.2	*88.6*
Lowest ranked areas	Barnsley 018	Yorkshire and The Humber	71.2	47.9	*67.2*
	Wirral 016	North West	66.7	44.4	*66.6*
	Barnsley 022	Yorkshire and The Humber	72.9	48.5	*66.6*
	Easington 012	North East	73.3	48.7	*66.5*
	Easington 008	North East	73.1	48.0	*65.7*
	Easington 003	North East	71.2	46.7	*65.6*
	Knowsley 010	North West	73.5	48.1	*65.5*
	Easington 007	North East	73.7	47.5	*64.5*
	Barnsley 014	Yorkshire and The Humber	72.5	46.6	*64.3*
	Easington 006	North East	72.1	45.7	*63.3*

Table 5 **Highest and lowest ranked areas by proportion of life spent without disability, females at birth, 1999–2003**

England

	MSOA	GOR	LE (Years)	DFLE (Years)	DFLE as a proportion of LE (Percentages)
Highest ranked areas	Richmond upon Thames 009	London	79.8	69.8	*87.5*
	Reigate and Banstead 007	South East	78.2	68.4	*87.4*
	Cherwell 012	South East	83.3	72.7	*87.3*
	Wycombe 007	South East	80.5	70.3	*87.3*
	Elmbridge 016	South East	83.8	73.1	*87.2*
	Windsor and Maidenhead 017	South East	78.8	68.7	*87.2*
	West Berkshire 015	South East	78.0	67.9	*87.1*
	Elmbridge 002	South East	82.3	71.7	*87.1*
	Wokingham 016	South East	79.2	69.0	*87.1*
	Elmbridge 018	South East	83.1	72.3	*86.9*
Lowest ranked areas	Bolton 016	North West	75.9	50.7	*66.7*
	Stoke-on-Trent 017	West Midlands	79.5	52.8	*66.5*
	Liverpool 039	North West	72.5	48.2	*66.4*
	Easington 008	North East	77.3	51.3	*66.4*
	Birmingham 039	West Midlands	82.9	55.0	*66.3*
	Barnsley 014	Yorkshire and The Humber	78.4	51.9	*66.2*
	Knowsley 010	North West	80.3	52.7	*65.6*
	Newham 033	London	85.6	55.9	*65.3*
	Easington 007	North East	79.2	51.6	*65.2*
	Easington 006	North East	76.8	49.9	*65.0*

DFLE at birth for Government Office Regions

For both sexes, the median DFLE at birth was highest in the South East and lowest in the North East: for males at birth, those in the South East could expect to live without disability for an additional 8.3 years compared with those in the North East; for females, this inequality was 7.1 years.

The proportion of life spent without a disability was also highest in the southern GORs of the South East, South West and East and lowest in the northern GORs. Males in the South East could expect to spend 84.1 per cent of their life without disability compared with only 76.1 per cent in the North East. For females, the comparable proportions were 82.4 and 75.9 per cent for these GORs.

For males, the DFLE values for the 5th and the 95th DFLE percentiles showed both of these to be lowest in the North West, North East and Yorkshire and the Humber and highest in the East of England, South East and South West (table 6). Between GORs, the 5th percentile ranged from 49.5 years in the North West to 58.1 years in the East of England, a gap of 8.6 years; and 95th percentile ranged from 65.4 years in the North East to 69.5 in the South East, a gap of 4.1 years. Similar results were found among females (table 7).

Within regions, the range between the 5th and 95th percentile values showed that the gap in DFLE was wider among northern GORs compared to southern ones. For males, the widest gap was 16.8 years in the North West while the smallest was 10.6 years in the East of England; for females, the equivalent gaps were 15.3 years in the North West and 9.3 years in the East of England. The median absolute variation also showed that there were wider DFLE gaps within GORs in the north compared with those in the south. For males, the largest variation was in the North West and smallest in the East of England. For females, the largest variation was also in the North West but smallest in the South West (see tables 6 and 7). Thus the pattern of variation was such that the gap in DFLE between the MSOA with the highest and that with the lowest value was greater in GORs with low DFLE values compared to those with higher values.

Table 6 **Median, median absolute deviation and range of DFLE for MSOAs by Government Office Region, males at birth, 1999–2003**

England — Years

GOR	Median	Median Absolute Deviation	5th Percentile	95th Percentile	Range between 5th and 95th percentile
East Midlands	61.9	3.24	52.8	67.3	14.5
East of England	64.7	2.03	58.1	68.7	10.6
London	61.6	3.34	54.5	68.5	14.0
North East	56.8	3.52	49.7	65.4	15.7
North West	59.2	3.86	49.5	66.4	16.8
South East	65.1	2.47	57.6	69.5	11.9
South West	63.7	2.11	56.6	68.1	11.6
West Midlands	60.9	3.57	53.1	67.0	13.9
Yorkshire and The Humber	60.6	3.43	51.7	67.0	15.3
England	62.3	3.32	52.8	68.2	15.5

Table 7 **Median, median absolute deviation and range of DFLE for MSOAs by Government Office Region, females at birth, 1999–2003**

England

Years

GOR	Median	Median Absolute Deviation	5th Percentile	95th Percentile	Range between 5th and 95th percentile
East Midlands	64.5	2.63	56.8	69.1	12.3
East of England	66.5	1.85	61.1	70.4	9.3
London	63.9	3.04	57.6	69.9	12.3
North East	60.3	3.13	54.1	67.4	13.3
North West	61.8	3.46	53.3	68.6	15.3
South East	67.4	2.15	61.0	71.2	10.2
South West	66.3	1.78	60.4	70.0	9.7
West Midlands	63.3	3.17	55.6	69.0	13.3
Yorkshire and The Humber	63.4	3.11	55.2	69.1	13.9
England	64.7	2.97	56.3	70.0	13.8

Comparison with national figures

For males absolute DFLE at birth was lower in all northern GORs than the national average; substantially lower in the North West and North East (3.2 and 5.6 years respectively) but only 0.4 years lower in the East Midlands, 1.5 years in the West Midlands and 1.7 years in Yorkshire and the Humber. In contrast, with the exception of London, all southern GORs had a higher DFLE at birth than national figures; 2.4 years higher in the East of England, 2.7 years in the South East, 1.4 years in the South West. Similarly, compared with the national average, the proportion of life spent without disability was lower in all northern GORs and higher among those in the south. Results were similar for females (table 8).

Table 8 **Proportion of life spent without disability: by Government Office Region and sex, 1999–2003**

England

Years/ Percentages

	GOR	Median LE	Median DFLE	Lower 95% confidence interval	Upper 95% confidence interval	DFLE as a proportion of LE (%)
Males at birth	East Midlands	76.1	61.9	*61.5*	*62.3*	*81.4*
	East of England	77.3	64.7	*64.3*	*64.9*	*83.7*
	London	75.6	61.6	*61.1*	*62.0*	*81.4*
	North East	74.6	56.8	*56.2*	*57.5*	*76.1*
	North West	74.7	59.2	*58.5*	*59.5*	*79.2*
	South East	77.4	65.1	*64.9*	*65.4*	*84.1*
	South West	77.5	63.7	*63.4*	*63.9*	*82.2*
	West Midlands	75.5	60.9	*60.4*	*61.5*	*80.6*
	Yorkshire and The Humber	75.6	60.6	*60.1*	*61.2*	*80.2*
	England	76.3	62.3	*62.2*	*62.5*	*81.7*
Females at birth	East Midlands	80.7	64.5	*63.9*	*64.7*	*79.9*
	East of England	81.8	66.5	*66.3*	*66.8*	*81.3*
	London	80.9	63.9	*63.6*	*64.3*	*79.0*
	North East	79.4	60.3	*59.7*	*60.8*	*75.9*
	North West	79.7	61.8	*61.4*	*62.3*	*77.5*
	South East	81.7	67.4	*67.1*	*67.6*	*82.4*
	South West	81.9	66.3	*66.1*	*66.5*	*81.0*
	West Midlands	80.6	63.3	*62.7*	*63.7*	*78.6*
	Yorkshire and The Humber	80.6	63.4	*62.9*	*63.7*	*78.6*
	England	81.0	64.7	*64.6*	*64.9*	*79.9*

Quintile level analysis of DFLE at birth

For both sexes there were substantial inequalities in DFLE at birth between the highest and lowest quintiles of areas; however, the gap was significantly wider for males than for females. While males in the fifth of MSOAs with the highest DFLE at birth could expect to spend an additional 12.5 years free from disability than those in the bottom fifth, for females this inequality was only 11.2 years.

In each quintile females had a higher DFLE at birth than males; however, they also spent a higher proportion of life with a disability (table 9). In quintile 1, males at birth could expect to spend 84.9 per cent of their life without disability, compared with only 75.9 per cent in quintile 5. For females the equivalent proportions were 82.9 per cent compared with 74.3 per cent respectively.

DFLE at age 65 was not calculated for each quintile of DFLE values, since estimates were not calculated for individual areas at this age.

Table 9 **Summary statistics of DFLE quintiles for MSOAs, 1999–2003: males and females at birth**

England

Years/ Percentages

	Quintiles of DFLE	Median LE	Median DFLE	Lower 95% confidence interval	Upper 95% confidence interval	DFLE as a proportion of LE (%)	Minimum DFLE	Maximum DFLE
Males at birth	Highest- 1	79.2	67.2	*67.1*	*67.3*	*84.9*	65.9	73.9
	2	77.6	64.7	*64.7*	*64.8*	*83.4*	63.5	65.9
	3	76.3	62.3	*62.3*	*62.4*	*81.7*	61.0	63.5
	4	74.6	59.3	*59.2*	*59.4*	*79.5*	57.3	61.0
	Lowest- 5	72.1	54.7	*54.5*	*54.8*	*75.9*	44.1	57.3
	Range between Quintiles 1 and 5	7.1	12.5	*12.4*	*12.7*	*9.0*	21.8	16.6
	England	76.3	62.3	*62.2*	*62.5*	*81.7*	44.1	73.9
Females at birth	Highest- 1	83.4	69.2	*69.1*	*69.2*	*82.9*	67.9	74.3
	2	82.0	66.9	*66.8*	*66.9*	*81.5*	65.8	67.9
	3	81.0	64.7	*64.7*	*64.8*	*79.9*	63.6	65.8
	4	79.8	62.1	*62.0*	*62.2*	*77.8*	60.3	63.6
	Lowest- 5	78.0	57.9	*57.8*	*58.1*	*74.3*	48.2	60.3
	Range between Quintiles 1 and 5	5.4	11.2	*11.0*	*11.4*	*8.6*	19.7	14.0
	England	81.0	64.7	*64.6*	*64.9*	*79.9*	48.2	74.3

Distribution of MSOAs within IMD 2004 quintiles

For both sexes there were clear regional differences in the distribution of MSOAs in the least and most deprived quintiles; 44.8 per cent of MSOAs in the South East, 32.5 per cent in the East of England and 19.4 per cent in the South West were members of the least deprived quintile. In contrast, only 4.7 per cent in the North East and 10.0 per cent in the North West were in this group. The regional pattern was reversed for the most deprived quintile: while 42.1 per cent of MSOAs in the North East, 33.4 per cent in the North West and 30.5 per cent in Yorkshire and the Humber were placed in this quintile, only 5.0 per cent in the East of England, 4.1 per cent in the South East and 6.6 per cent in the South West were in this group.

Table 10 **Distribution of MSOAs by IMD 2004 quintiles and Government Office Regions, 1999–2003**

England

Percentages

GOR	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
East Midlands	21.7	19.8	20.7	20.7	17.2
East of England	32.5	28.9	20.6	13.0	5.0
London	9.9	14.4	19.0	28.9	27.8
North East	4.7	9.9	18.7	24.6	42.1
North West	10.0	16.1	18.8	21.8	33.4
South East	44.8	21.4	17.6	12.1	4.1
South West	19.4	29.6	24.5	19.9	6.6
West Midlands	12.5	20.8	19.9	20.5	26.3
Yorkshire and The Humber	9.8	16.0	21.9	21.8	30.5

DFLE at birth and at age 65 by area deprivation

Absolute DFLE

For both sexes there was an inverse relationship between relative deprivation and DFLE; as relative deprivation increased, the number of years lived without disability decreased. (See Figures 3 & 4).

The gap in DFLE at birth between quintile extremes was significantly greater for males than for females. While males at birth in the least deprived areas could expect to spend an additional 12.6 years without disability compared with those in the most deprived areas, the equivalent inequality for females was 10.9 years.

At age 65 inequality in DFLE was still present and differences by sex, though much narrower than at birth, were significant. Males in the least deprived areas could expect to spend an extra 4.0 years without disability compared with those in the most deprived areas; for females the equivalent gap was 3.8 years.

As described earlier, it was not possible to calculate DFLE at age 65 for quintiles based on DFLE values because DFLE was not estimated for individual MSOAs at this age. In contrast, DFLE at age 65 was calculated for each quintile of area deprivation as this was not dependent on individual DFLE values at this age.

Figure 3 **Life expectancy (LE) and disability-free life expectancy (DFLE) for males at birth by quintiles of relative deprivation: MSOAs in England, 1999–2003**

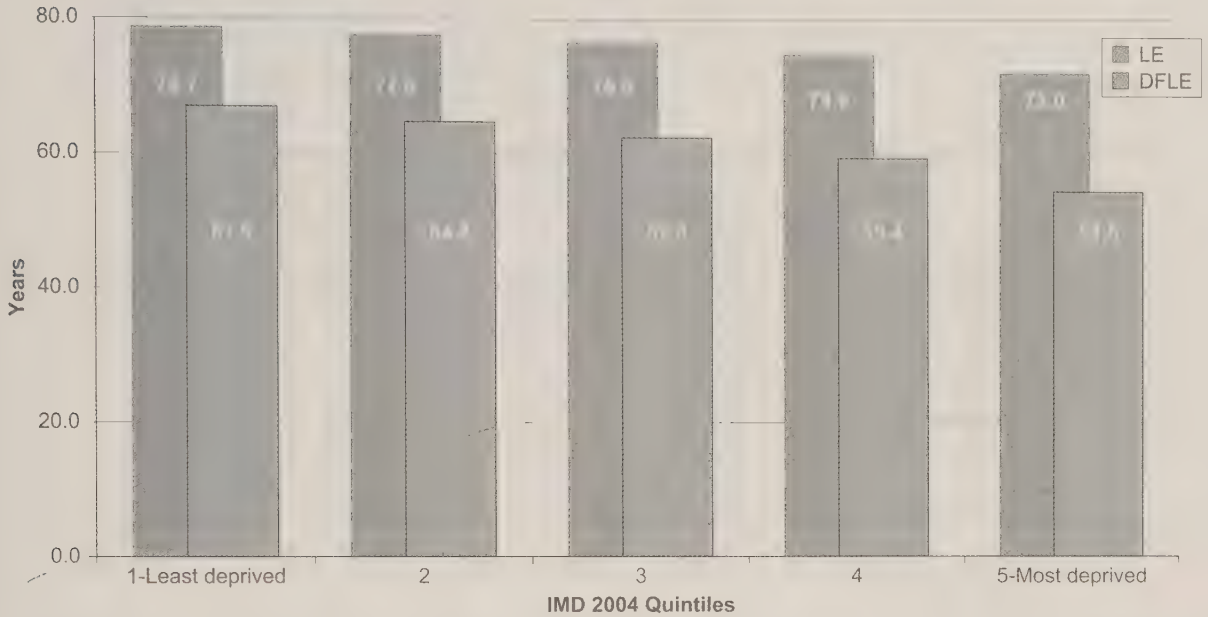
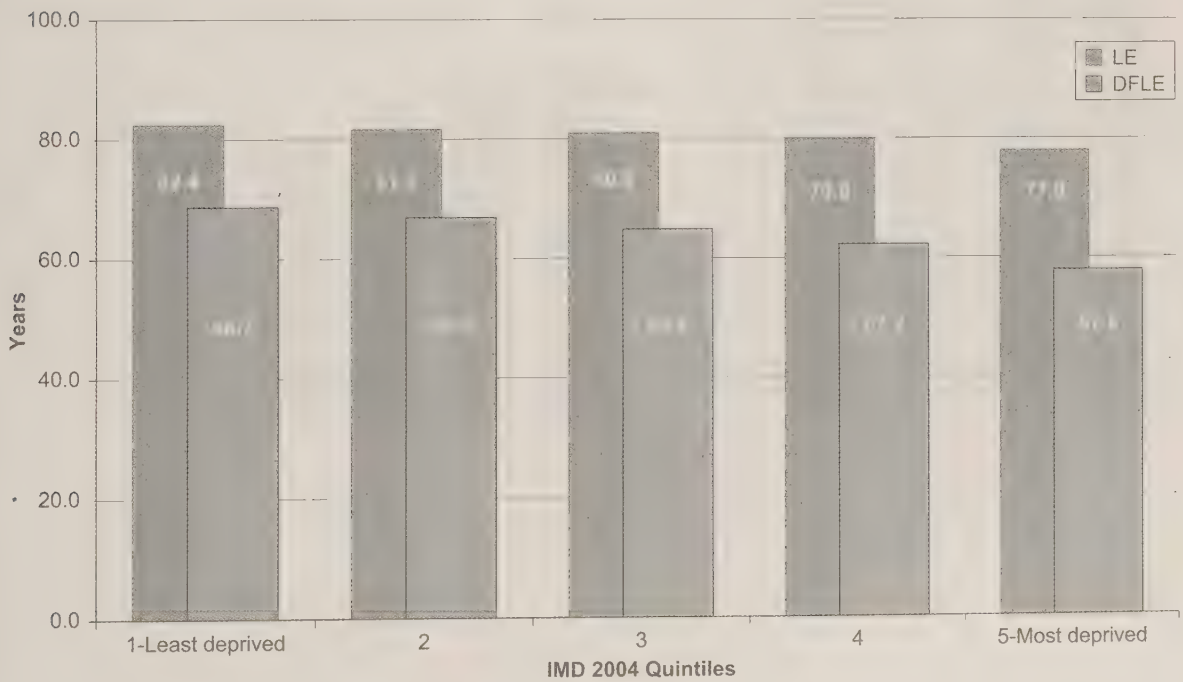


Figure 4 **Life expectancy (LE) and disability-free life expectancy (DFLE) for females at birth by quintiles of relative deprivation: MSOAs in England, 1999–2003**



Relative DFLE

In all deprivation quintiles at birth and at age 65, females spent a higher proportion of life with disability than males. In the least deprived areas, males at birth could expect to spend 85.2 per cent of their life without disability, compared with only 75.7 per cent in the most deprived areas. For females the equivalent proportions were 83.3 per cent compared with 74.2 per cent respectively. However, the advantage of men in relative DFLE at national level is modified by level of area deprivation; females in quintiles 1, 2 and 3 spend a larger proportion of their life free of disability than males in quintiles 4 and 5.

At age 65 the inequality in relative DFLE between the deprivation extremes was considerably wider than at birth: males in the least deprived areas could expect to spend 56.6 per cent of their remaining life without disability compared with only 41.0 per cent in the most deprived areas. For females the equivalent proportions were 53.0 per cent and 39.1 per cent respectively. (See Figures 5 & 6). The similar modifying effect of area based deprivation on the national pattern by sex observed at birth was also present at age 65.

Figure 5 **Proportion of life spent without disability for males by age and quintiles of relative deprivation: MSOAs in England, 1999–2003**

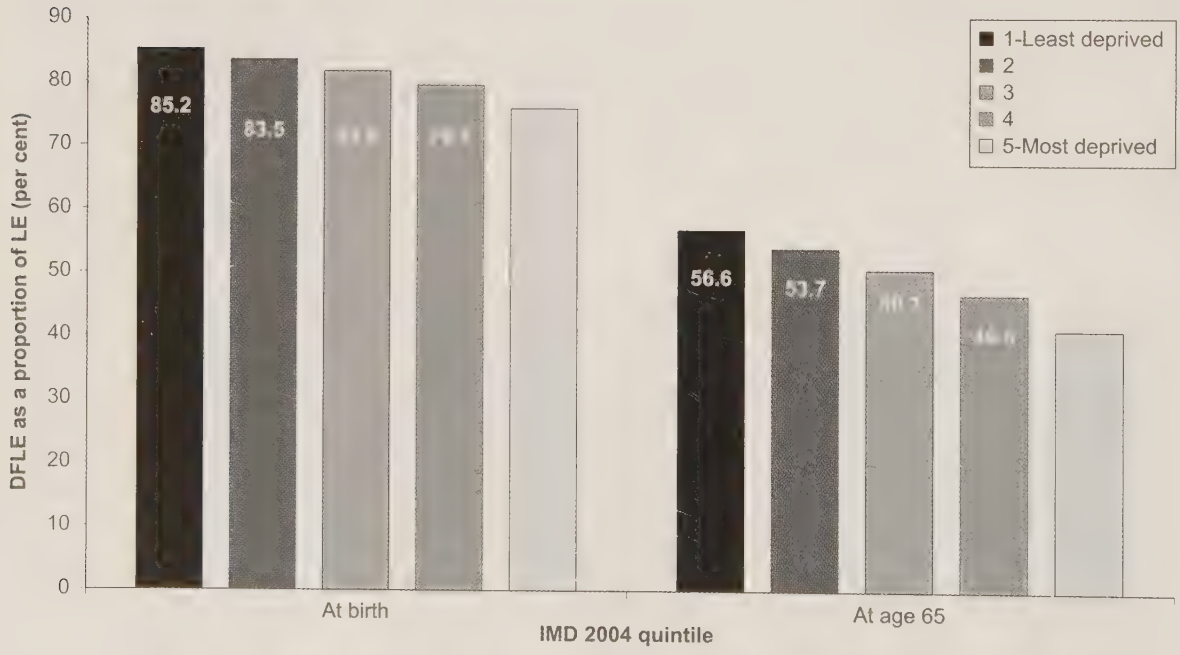
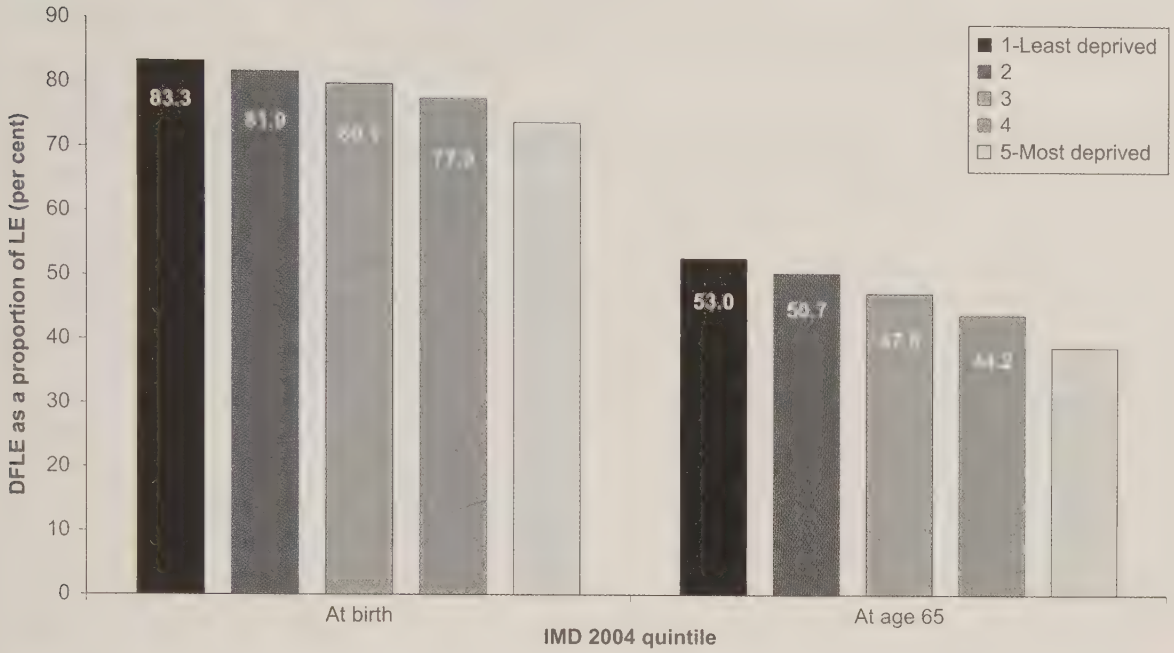


Figure 6 **Proportion of life spent without disability for females by age and quintiles of relative deprivation: MSOAs in England, 1999–2003**



The scale of inequality in DFLE varied across adjacent deprivation quintiles; the inequality in DFLE at birth and at age 65 between quintiles 4 and 5 for both sexes, was considerably wider than that between any other two adjacent quintiles. These gaps were also wider for males than for females (table 11).

Comparison with national figures

The absolute and relative DFLE at birth for males in England was considerably higher than that for those living in the most deprived areas: 61.7 years (81.2 per cent) compared with only 54.5 years (75.7 per cent) respectively. For females the equivalent figures were 64.2 years (79.7 per cent) compared with only 57.8 years (74.2 per cent) respectively.

In contrast, males and females in the least deprived areas had a higher DFLE at birth than the corresponding national estimates. At age 65 a similar pattern was observed (table 11).

Table 11

Life expectancy and disability-free life expectancy: by area deprivation, males and females at birth, and at age 65, 1999–2003

England

Years/ Percentages

	IMD 2004 Quintile	LE	DFLE	Lower 95% confidence interval	Upper 95% confidence interval	DFLE as a proportion of LE (%)
Males at birth	1-Least deprived	78.7	67.0	*67.0*	*67.0*	*85.2*
	2	77.6	64.8	*64.8*	*64.8*	*83.5*
	3	76.5	62.4	*62.4*	*62.4*	*81.6*
	4	74.8	59.4	*59.4*	*59.4*	*79.4*
	5-Most deprived	72.0	54.5	*54.5*	*54.5*	*75.7*
	Range	6.7	12.6	*12.5*	*12.6*	*9.5*
	England	75.9	61.7	*61.7*	*61.7*	*81.2*
Males at age 65	1-Least deprived	17.4	9.8	*9.8*	*9.9*	*56.6*
	2	16.8	9.0	*9.0*	*9.1*	*53.7*
	3	16.2	8.2	*8.1*	*8.2*	*50.3*
	4	15.4	7.2	*7.1*	*7.2*	*46.5*
	5-Most deprived	14.3	5.9	*5.8*	*5.9*	*41.0*
	Range	3.0	4.0	*3.9*	*4.0*	*15.6*
	England	16.1	8.0	*8.0*	*8.1*	*50.1*
Females at birth	1-Least deprived	82.4	68.7	*68.7*	*68.7*	*83.3*
	2	81.6	66.9	*66.8*	*66.9*	*81.9*
	3	80.9	64.8	*64.8*	*64.8*	*80.1*
	4	79.8	62.2	*62.2*	*62.2*	*77.9*
	5-Most deprived	77.9	57.8	*57.8*	*57.8*	*74.2*
	Range	4.5	10.9	*10.8*	*10.9*	*9.1*
	England	80.5	64.2	*64.2*	*64.2*	*79.7*
Females at age 65	1-Least deprived	20.2	10.7	*10.7*	*10.7*	*53.0*
	2	19.7	10.0	*9.9*	*10.0*	*50.7*
	3	19 3	9.2	*9.1*	*9.2*	*47.6*
	4	18.7	8.3	*8.2*	*8.3*	*44.2*
	5-Most deprived	17.7	6.9	*6.9*	*7.0*	*39.1*
	Range	2.5	3.8	*3.7*	*3.8*	*13.9*
	England	19.1	9.0	*9.0*	*9.0*	*47.2*

Differences in the distribution of MSOAs across DFLE and IMD 2004 quintiles

The distribution of MSOAs within DFLE and IMD 2004 quintiles was such that those with the highest DFLE were not always placed in the least deprived areas, nor were those with the lowest all placed in the most deprived areas. Nevertheless, MSOAs placed in quintiles 1 and 5 by DFLE estimates predominantly occupied the same area deprivation quintile.

There was a clear difference by sex in the proportion of MSOAs equivalently placed on both quintile measures: for males, 74.0 per cent of MSOAs in DFLE quintile 1 were placed in the least deprived areas, while the equivalent proportion for females was only 69.3 per cent. The sex differences were much narrower for the most deprived areas in quintile 5: for males, while 83.6 per cent of MSOAs in DFLE quintile 5 were in the most deprived areas, the equivalent proportion for females was 81.9 per cent.

Discussion

This report measures DFLE at birth and at age 65 for males and females at the small area level. It has identified inequalities in both the number of years and proportion of life spent without disability between area groupings based on level of absolute DFLE and the IMD 2004 measure of area deprivation. It represents the first use of English MSOAs in estimating LE and DFLE by the ONS.

For both sexes there was a clear north-south divide in the regional density of MSOAs across quintiles of both DFLE and relative deprivation: MSOAs with the highest DFLE at birth were predominantly located in southern regions while those with the lowest had a greater density in the north; the most advantaged MSOAs were concentrated in southern regions and consequently had the highest DFLE at birth and at age 65

While the geographical variation in DFLE may in part be due to differences in the contextual characteristics of northern and southern MSOAs, it is likely to be influenced more by the underlying spatial differences in their socioeconomic composition. Several studies suggest that material disadvantage at an individual level accounts for most but not all spatial inequality in measures of health (Joshi *et al.* 2000; Woods *et al.* 2005). It is also widely accepted that the historical spatial variation in the employment structure in England, with a higher concentration of heavy industries (dominated by manual occupations) in the north, is partly responsible for area differences in health. People exposed to the hazards associated with these occupations as well as their families are more likely to experience material deprivation and less likely to adopt healthy lifestyle behaviours (Joshi *et al.* 2000). This article has not attempted to separate the relative contributions of contextual and individual level characteristics on observed geographical variations in DFLE.

The pattern of inequality found in this study is broadly consistent with previous research: DFLE at birth and at age 65 varied inversely with relative deprivation. The gap in DFLE at birth between the least and the most deprived areas was substantial and greater for males than for females. The gaps were still present at age 65; the magnitudes, however, were considerably smaller than at birth and the sex differences were much narrower.

In relative terms, females spent a higher proportion of life with disability than males across all deprivation quintiles. Compared to absolute DFLE, for both sexes the gap in relative DFLE

between the least and the most deprived areas was wider at age 65 than at birth, and these gaps were greater for males than females. However, level of deprivation has an important modifying influence on the national pattern of relative DFLE by sex. The relative DFLE of women living in more affluent areas is higher than that of men living in more deprived areas.

For males the scale of inequality in DFLE at birth between quintile extremes was slightly greater for area deprivation than for DFLE. While males in the least deprived areas spent an additional 12.6 years without disability compared with those in the most deprived areas, the equivalent DFLE quintile gap was 12.5 years. For females the reverse was the case: the gap in DFLE at birth between quintile extremes was wider for DFLE than for area deprivation (11.2 compared with 10.9 years respectively). These differences are explained by the fact that males in DFLE quintiles 1 and 5 were more likely to occupy the same quintile of area deprivation than their female counterparts. For both sexes, over a quarter of MSOAs with the highest DFLE values were not in the most affluent areas, highlighting the fact that the measure of deprivation used leaves some of the variations in DFLE between areas unexplained and other latent factors outside the scope of the IMD 2004 are likely to contribute to these differences. Nevertheless, the concentration of disability in highly deprived areas confirms the importance of ecological deprivation in discriminating DFLE at the small area level.

While ward level analyses represent an alternative approach to estimating DFLE at small area level, wards are heterogeneous in terms of spatial scale and population size. The stability, accuracy and precision of measured health events between area comparisons and across the entire population of wards are therefore uncertain, reducing the scope for objective interpretation for policy purposes. For example, in a previous report (ONS Report, 2006), the sex-specific population counts in some wards were too small to allow calculation of DFLE at birth by sex even after temporal aggregation of five years of data. These limitations, however, were not encountered at MSOA level as the population count in each area was sufficiently large to compute DFLE at birth at the person level and by sex with temporal aggregation.

Another advantage of MSOA level analyses, as opposed to ward level, is the scope to track changes in health inequalities over time; MSOA boundaries were not designed for frequent change, hence ensuring spatial consistency and more meaningful comparison over time.

A further advantage of estimating HEs at MSOA level is the consistent level of precision in estimates compared with wards. The wide margins of error at ward level makes comparisons between individual areas difficult; for example, in the analyses covering the period 1999 to 2003, the average width of CI for ward DFLE at birth was 3.8 years for males and 3.6 years for females, while for individual areas the widest CIs were 25.2 years for males and 29.9 for females (ONS, 2007). The equivalent widths at MSOA level were much narrower: on average 1.1 years and 1.0 year for males and females respectively and at worst only 5.1 and 6.6 years for males and females for individual areas.

A possible source of bias in these analyses is the relative density of nursing and residential care homes across areas. For both sexes GORs in the south had a higher proportion of people aged 65 and over in these institutions, while the proportion of females was higher than males (author's analysis). The inclusion of the institutional population is therefore likely to reduce DFLE more in the most affluent areas than the most deprived and act to narrow the gap in inequality between these

areas. Nevertheless, in a previous study, Bebbington and Darton (1996) found that the overall effect of adjusting for the institutional population was small.

Conclusions

The estimation of health indices for small areas is important for resource allocation and for effective monitoring and planning purposes, since many services are implemented and delivered locally.

This report provides estimates of LE and DFLE at birth and at age 65 for individual MSOAs and measures of geographical and deprivation-related health inequalities in England for the period 1999–2003. For both sexes there are significant differences in DFLE at birth and at age 65 based on these two measures, while differences by sex were also present. We have illustrated the relative advantages of MSOAs over wards in estimating DFLE for small areas; their relative homogeneity in terms of population size and structure means that estimates are more precise and better inference between areas can be drawn. There is also scope for monitoring changes in health inequalities as MSOAs were designed to undergo minimal boundary changes over time.

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Amenable mortality as an indicator of healthcare quality – a literature review

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Abstract

Background

In 2008, the Office for National Statistics (ONS) suggested that research should be undertaken into whether amenable mortality – deaths considered avoidable due to medical intervention – could be used as an indicator of healthcare quality. The aim of this paper is to review the literature on amenable mortality in order to determine the extent to which the observed fall in amenable mortality is due to the healthcare system.

Methods

The literature reviewed covers mainly the Organisation for Economic Co-operation and Development (OECD) countries and can be broadly categorised into: (a) trends across OECD countries (b) pooled time series cross-country analyses of OECD countries and (c) cross-section or time series analyses within countries.

Results

There is no consensus in the literature on exactly what constitutes amenable mortality, thereby making the concept in itself imprecise. However, there has been a fall in amenable mortality in the past few decades in most OECD countries including the UK. Since the fall in amenable mortality has been at a faster rate than that of 'unavoidable' mortality, some studies have directly attributed this to the healthcare system. Others have tested the relationship between healthcare outcomes and healthcare inputs to determine the magnitude and direction of the relationship.

No study has explicitly used a healthcare activity or quality variable in their analyses. This implies that the evidence that amenable mortality is an indicator of healthcare quality is far from overwhelming or clear.

Conclusions

At this stage, it is premature to use amenable mortality in ONS's healthcare output calculations. We welcome comments from those interested in this field, and suggestions to improve understanding in this area.

Editor's note

This article originally appeared on the ONS website on 30 March 2010 at http://www.statistics.gov.uk/cci/article.asp?id=2397. It is reproduced here to disseminate the findings more widely and make the content readily available to readers of HSQ. As the original article was quality assured by selected members of the UK Centre for the Measurement of Government Activity (UKCeMGA) quality assurance panel for Healthcare, additional peer review was not considered necessary before publication in HSQ.

Contents

Abstract 66
Introduction 69
Background 69
Results from the literature 70
Conclusions 76
References 78

List of Figures

Figure 1 Decline in amenable mortality amongst males and females aged 0–74. Nineteen OECD countries, 1997/98–2002/03 71
Figure 2 Decline in amenable, preventable and unavoidable mortality amongst males and females aged 0–74 in England and Wales, 1993–2005 72

Introduction

The ONS is responsible for producing estimates of public service output and productivity, and therefore publishes measures of healthcare output and productivity for the UK (ONS 2010; ONS 2008; ONS 2006; ONS 2004). Healthcare output is measured using healthcare activity, and adjusted for quality using the following indicators:

- short-term survival and health gain following treatment in hospital, including health effects of shorter waiting time
- outcomes from primary medical care
- assessment of patient experience

As part of the work to improve the measure of healthcare output, ONS proposed an investigation of amenable mortality as an indicator of healthcare quality (ONS 2008).

Background

In recent decades in the UK, the rate of amenable mortality, that is deaths considered avoidable due to medical intervention, have fallen. In England and Wales, the age-standardised mortality rate (takes into account differences in the age structure of populations and allow comparison over time and between sexes) for all causes considered amenable to medical intervention decreased by around 43 per cent for males and 38 per cent for females between 1993 and 2005 (Wheller *et al.* 2007).

This raises an obvious question – how much, if any, of the observed decline in amenable mortality can be attributed to the healthcare system? The answer, however, is not obvious since apart from healthcare, there is a wide range of socio-economic and lifestyle factors that influence health outcomes.

The Department of Health (DH) in a recent paper on quality adjustments to healthcare output (DH 2007) estimated what would happen if the entire observed decline in amenable mortality in England were due to the National Health Service (NHS). DH valued each life year saved at £30,000 to calculate the addition to NHS output. They found that, between 2000 and 2005, the resulting increase in NHS output would equal approximately £2.9 billion and add approximately 1 per cent per annum to the output series. DH notes however that:

- there is no evidence that the decline in amenable mortality can be attributed entirely to the NHS
- amenable mortality might be declining (i) due to an increase in NHS activity (ii) an improvement in NHS quality. If the entire fall in amenable mortality is attributed to the NHS and thereby added to the output series, this could result in double counting since NHS activity is already included in the output series
- current quality indicators, especially survival after hospital treatment, might already be picking up the impact of declining amenable mortality on healthcare output

In order to include amenable mortality in ONS's healthcare output calculations, there is a need to validate the relationship between amenable mortality and healthcare. In other words, what proportion of the decline in amenable mortality can be attributed to the healthcare system and,

more importantly, is it possible to assess how much of the decline is due to an increase in activity and how much to an improvement in quality?

Aim of the paper

The primary aim of this paper is to review the literature on amenable mortality in order to determine the extent to which the observed fall in amenable mortality is due to the healthcare system. This is in line with the principle set out in the Atkinson Review (2005) which states that 'the output of the government sector should in principle be measured in a way that is adjusted for quality, taking account of the attributable incremental contribution of the service to the outcome.'

This paper also identifies gaps in the literature and suggests directions for future research. The implications of the findings for the work of the ONS on healthcare output and productivity are also discussed. Only studies that focus on OECD countries are covered.

Results from the literature

What constitutes amenable mortality is not clear

Amenable mortality can broadly be defined as deaths occurring before age 75 from causes that are considered amenable to medical intervention (Wheller *et al.* 2007). Examples include breast cancer, cancer of colon and rectum, leukaemia, gastric and duodenal ulcer, and hypertensive diseases. There is, however, no consensus in the literature on exactly what constitutes amenable mortality (Wheller *et al.* 2007; Nolte and McKee 2004). Advances in medical care mean that diseases that are considered amenable to medical intervention keep changing over time. Additionally, the 'cut off' age can vary depending on the condition in question. For instance, some authors set the age limit for diabetes mellitus under 50 because the preventability of deaths at older ages from diabetes remains controversial, while the age limit for whooping cough and measles might be set under 15 since deaths other than in childhood from these diseases are likely to reflect the presence of other disease processes (Nolte and McKee 2008).

While some studies focus on deaths amenable to medical intervention, others also include deaths considered preventable due to primary care or public health policies (often termed 'preventable mortality') such as lung cancer, illicit drug use disorders, transport accidents, and Hepatitis B. With preventable mortality however, individual lifestyle factors and socio-economic factors might play a proportionately larger role when compared to healthcare factors, thereby making it harder to separate the impact of healthcare from other factors. Nevertheless, the role of public health policies in mitigating deaths from preventable causes cannot be ignored altogether.

The literature also uses the term 'avoidable mortality' which may refer to (i) amenable mortality or (ii) both amenable and preventable mortality. This paper is not restricted to studies that cover amenable mortality but also includes those that discuss preventable mortality.

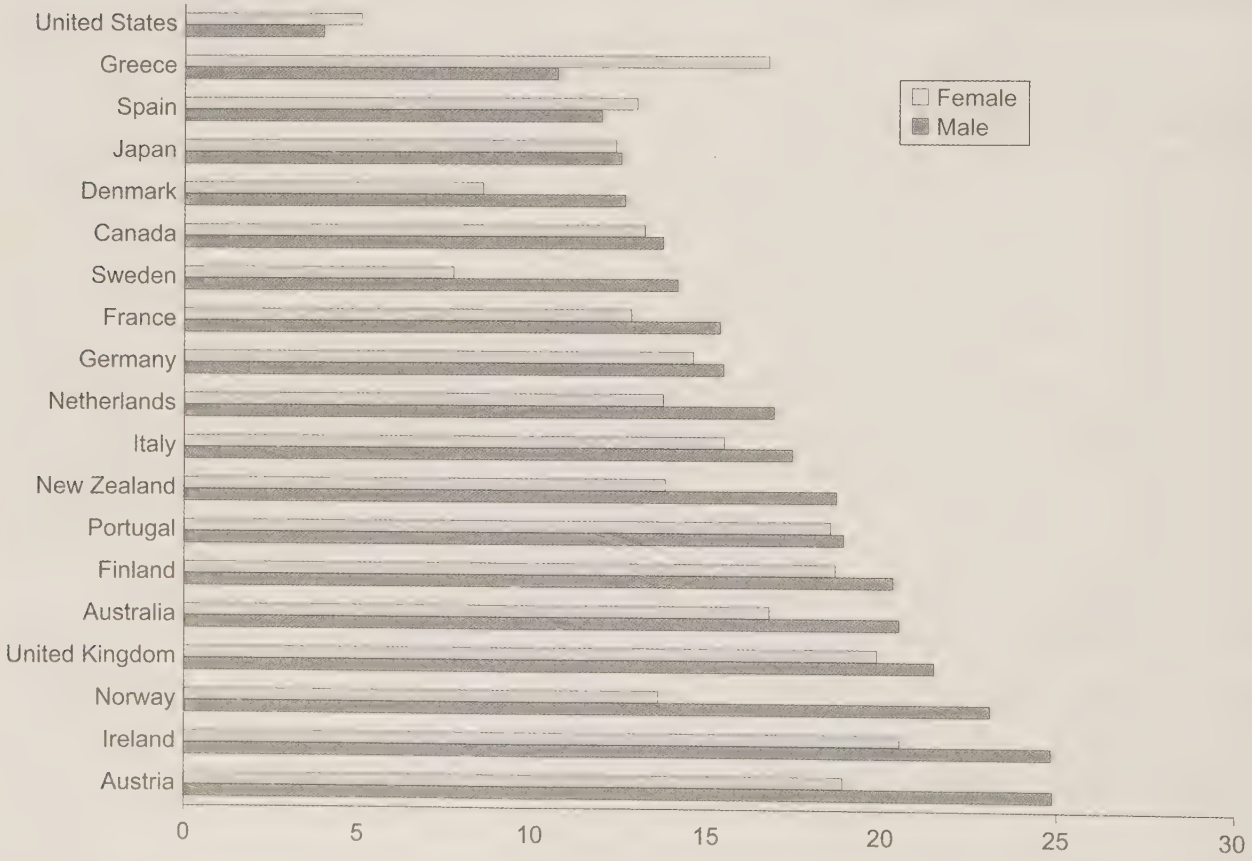
Trends in amenable mortality

The vast majority of the literature on amenable mortality discusses trends across or within countries. As mentioned before, this review is limited to OECD countries with a particular focus on the UK.

Declining rates of amenable mortality across OECD countries

Nolte and McKee (2008) carried out a comprehensive study of amenable mortality in 19 OECD countries between 1997/98 and 2002/03. They calculated the age-standardised death rates among males and females from selected causes and found a clear decline in amenable mortality in all countries (Figure 1). Among males, the average fall was 17 per cent, while for females it was 14 per cent. The USA showed the smallest decline, 4 per cent among males and just over 5 per cent among females. In the UK, the decline was 22 per cent for males and 20 per cent for females. It is important to acknowledge that the starting levels of mortality in these countries are different. However, the main point here is the observed decline in amenable mortality rates.

Figure 1 **Decline in amenable mortality amongst males and females aged 0–74. Nineteen OECD countries, 1997/98–2002/03**



Source: Nolte and McKee (2008)

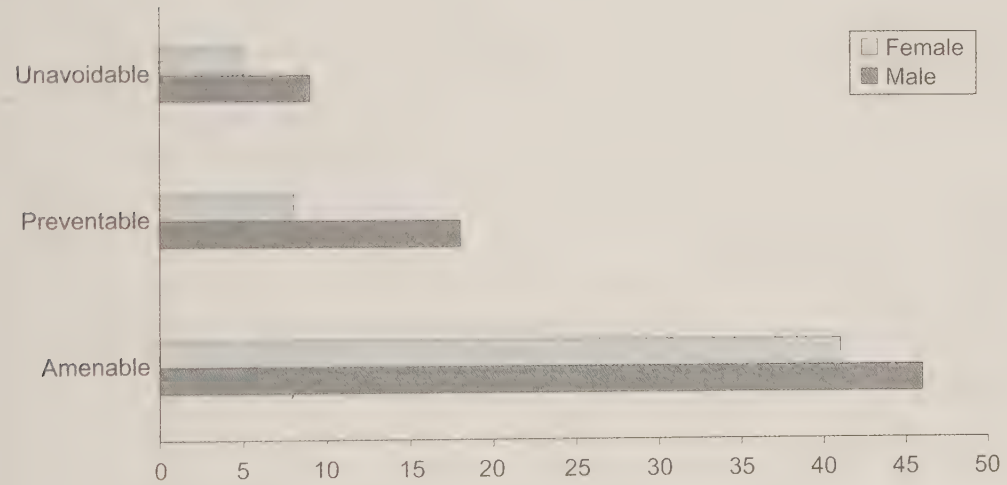
Declining rates of amenable mortality in England and Wales

Wheller *et al.* (2007) measured the rate of avoidable mortality in England and Wales between 1993 and 2005 and concluded that there was a fall in both amenable and preventable mortality.

Figure 2 shows the decline in amenable, preventable and unavoidable mortality using the Page, Tobias and Glover (2006) definition of avoidable mortality. Between 1993 and 2005, mortality from amenable causes decreased by 46 per cent and 41 per cent for males and females respectively; from preventable causes by 18 per cent for males and 8 per cent for females; and unavoidable causes by 9 per cent among males and 5 per cent among females.

The authors conclude that the 'decreases in mortality from avoidable causes are unlikely to simply be the result of a general decrease in mortality rates and that medical interventions are likely to have contributed positively to reductions in avoidable mortality, as are public health initiatives, though perhaps to a lesser extent'.

Figure 2 **Decline in amenable, preventable and unavoidable mortality amongst males and females aged 0–74 in England and Wales, 1993–2005**



What the trends tell us

There is a clear decline in amenable mortality in most OECD countries, including the UK. Some studies have directly attributed the decline to the healthcare system. However, Nolte and McKee (2008) point out that 'amenable mortality should not be mistaken as a definitive evidence of differences in effective healthcare but rather as an indicator of the potential weaknesses in healthcare that can be investigated in more depth.'

The following sections will discuss those studies that have tested the magnitude and direction of the relationship between healthcare inputs and healthcare outcomes. The results will determine how much, if any, of the fall in amenable mortality can be attributed to the healthcare system.

Empirical evidence of the relationship between health outcomes and inputs

The most common method employed to test the relationship between health outcomes (for example, life expectancy) and health inputs is a health production function. Studies reviewed in this section can be split into (i) pooled time series cross-country analyses of OECD countries and (ii) cross-section or time series analyses within countries. Not all studies reviewed have tested the relationship between healthcare inputs and amenable mortality *per se* – some have focused on the impact of healthcare on mortality in general.

The equation in Box 1 shows a typical health production function estimation. In order to determine if amenable mortality can be attributed to the healthcare system, the set of medical variables in the equation should ideally include indicators or measures of healthcare activity and healthcare quality.

Box 1 Health Production Function

$$H_{it} = \alpha_i + \beta M_{it} + \gamma E_{it} + \varepsilon_{it}$$

H is a measure of health outcome;

M captures medical or healthcare variables;

E is a list of non-medical variables;

subscripts i and t represent country and time;

the sign on β and γ gives the direction of the relationship between the respective health input and health outcome, and their values give the magnitude;

ε is the error term;

α picks out any country fixed effects – it is important to account for the fact that each country has different characteristic features and this term holds constant those characteristics that vary across countries but are fixed over time.

Variables used in the analyses

Health outcome variables: A range of indicators, often split by gender, have been used to capture the health outcome variable. These include life expectancy at birth, life expectancy at age 65, infant mortality, premature mortality, mortality rate, premature mortality from specific diseases and age-adjusted death rate.

Health input variables: The predominant healthcare input variable used in the literature is healthcare expenditure or healthcare expenditure *per capita*. In addition, health supply variables such as the number of doctors, hospital beds, type of health system, immunisation coverage, and physicians *per capita* have also been used in some studies. It is important to note that a healthcare expenditure variable does not explicitly capture either activity or quality aspects of the healthcare system and therefore does not directly answer the question at hand.

Socio-economic and lifestyle variables: Socio-economic factors including education, Gross Domestic Product (GDP) *per capita*, income distribution, age structure, unemployment rate, pollution, marriage, and crime have been used in the analyses. Individual and lifestyle factors such as tobacco, alcohol and sugar consumption, diet, fruit intake, and pre-existing health conditions have also been used.

The purpose of the studies reviewed

The primary purpose of the studies reviewed has been to assess the role of healthcare as a determinant of population health outcomes after controlling for socio-economic and individual lifestyle factors. Some have tested for differences in value for money and effectiveness of healthcare across OECD countries.

Three points worth noting here are:

1. Time lag: Most studies have ignored the time lag problem – improvements in medical care might only show effects on mortality after a certain period of time.

2. Disease incidence: Only a very small proportion of studies have taken into consideration the issue of disease incidence. It is important to account for this since the decline in amenable mortality could be due to a decline in incidence of disease as opposed to a decline in case fatalities. Treurniet *et al.* (1999) have shown that regional variations in mortality in the Netherlands were partly explained by disease incidence variations and that incidence-adjusted mortality rates might be more suited to explain variations in healthcare quality across regions.

3. Use of healthcare expenditure variable: Most studies reviewed have used healthcare expenditure as the main healthcare input variable in their analyses. In addition to not directly answering the question at hand, this poses a methodological problem – higher expenditure could often be found in areas with high mortality rates because resources are diverted to such areas. This makes it harder to separate cause from effect and therefore needs to be taken into account while estimating the relationship. Only a few studies have utilised the appropriate methodology to tackle this problem.

Evidence from pooled time series analyses across OECD countries

The studies discussed in this section will demonstrate that the evidence that variations in health outcomes can be explained by variations in health inputs is mixed.

Some studies found a weak or no association between the healthcare input variables and health outcomes (Mackenbach 1991; Poikolainen and Eskola 1988; Kunst *et al.* 1988). For instance, Mackenbach (1991) found no association between *per capita* healthcare expenditure and GDP-

adjusted average SMR (Standardised Mortality Rates) from amenable conditions for 11 European Community countries between 1980 and 1984.

Others found a statistically significant and negative relationship between healthcare variables and mortality indicators (Macinko *et al.* 2003; Joumard *et al.* 2008) while some found that socio-economic factors and/or individual lifestyle factors (Arah *et al.* 2005; Or 2000) have a higher magnitude of impact:

- One study on the impact of primary care systems on health outcomes (Macinko *et al.* 2003) in OECD countries found that the strength of a country's primary care system is negatively associated with all-cause premature mortality and cause-specific premature mortality (asthma and bronchitis, emphysema and pneumonia, cardiovascular disease, and heart disease) even after controlling for macro-level (GDP *per capita*, total physicians per 1,000 population, per cent of elderly) and micro-level (average number of ambulatory care visits, *per capita* income, alcohol and tobacco consumption) determinants of health. Primary care system characteristics were assessed using a common set of indicators – regulation, financing, primary care provider, access, longitudinally, first contact, comprehensiveness, coordination, family-centred, community-oriented.
- In another study, though healthcare coverage, immunisation and collective health expenditure were found to have negative effects on mortality and premature death, it was alcohol, tobacco and fat consumption that were significantly associated with higher all-cause mortality and premature death (Arah *et al.* 2005)
- The importance of socio-economic factors is demonstrated in a study (Or 2000) that finds the rise in the employment share of white collar workers and the rise in *per capita* income to have played the greatest role in the reduction of premature mortality between 1970 and 1992 across 21 OECD countries

Evidence from country-specific analyses

The studies reviewed in this section are restricted to analyses within a country and often attempt to explain subnational variations. Most found that socio-economic factors more than healthcare variables explain the decline in amenable mortality.

Evidence from OECD countries

A study of the USA (Thornton 2002) showed that additional medical care utilisation was relatively ineffective in lowering mortality and increasing life expectancy and the most important factors that influenced death rates related to socio-economic status and lifestyle. Similarly, studies of France (Jougla *et al.* 1987) and the Netherlands (Mackenbach *et al.* 1988) showed weak and inconsistent relationships between health status and health supply variables.

Evidence from the UK

Studies of the UK on the impact of the NHS on reducing amenable mortality are scarce. Earlier studies of England and Wales (Bauer and Charlton 1986; Charlton *et al.* 1983) did not directly test for the relationship between healthcare input and healthcare outcomes (Carr-Hill *et al.*1987).

One recent study (Martin *et al.* 2008) has tackled the inherent methodological problem while estimating a health production function – the need to account for the fact that higher expenditure is often found in areas with higher mortality rates. The main aim of this paper was to determine if extra spending gives rise to better health outcomes, after controlling for need. In that respect, the study does not test the relationship between amenable mortality and healthcare activity *per se*. Their results, however, show that healthcare expenditure has a positive effect on outcomes in five care programmes – cancer, circulation problems, respiratory problems, gastro-intestinal problems and diabetes. This study is a starting point for future research on amenable mortality in the UK - if the methodology is applied to test the relationship between mortality from amenable conditions and healthcare activity and quality, the findings would greatly reduce the current gap in the literature.

What the empirical analyses tell us

No study reviewed so far has explicitly used a healthcare activity or quality variable in their analyses. Therefore, it is rather difficult to draw definitive conclusions about the relationship between amenable mortality and the healthcare system. In addition, there is a lack of discussion in the literature about what variables could be used to capture healthcare activity and quality. Healthcare expenditure and supply variables can act as a proxy for healthcare activity and quality. However, studies that tend to use this variable are attempting to answer a different question – value for money. Additionally, since most studies have not corrected the inherent methodological problem while estimating a health production function using healthcare expenditure, it is harder to draw clear conclusions.

Conclusions

There is no consensus in the literature on exactly what constitutes amenable mortality, thereby making the concept in itself imprecise. However, there has been a clear fall in amenable mortality in the past few decades in most OECD countries including the UK. Since the fall in amenable mortality has been at a faster rate than that of unavoidable mortality, some studies have directly attributed this to the healthcare system. Others have tested the relationship between healthcare outcomes and healthcare inputs to determine the magnitude and direction of the relationship.

Since no study has explicitly used a healthcare activity or quality variable in their analyses, the evidence that amenable mortality is an indicator of healthcare quality is far from overwhelming or clear. Though healthcare expenditure can implicitly capture healthcare activity and healthcare quality, the use of this variable is more appropriate to determine value for money across regions. In order to test the relationship between healthcare input and amenable mortality, variables that are directly related to activity and quality of healthcare are essential. It would be ideal if disease incidence is also taken into account.

The fact that most studies have not corrected the inherent methodological problem in estimating a health production function using health expenditure might explain the commonly reported weak and inconsistent results for the healthcare input variables. Though there is strong evidence in the literature for socio-economic and individual lifestyle factors, the magnitude of the impact might be reduced with appropriate methodology and model specification.

At this stage, it is premature to use amenable mortality in ONS's healthcare output calculations. We welcome comments from those interested in this field, and suggestions to improve understanding in this area.

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Notes to Tables

Time series
For most tables, years start at 1971 and then continue at five-year intervals until 1991. Individual years are shown thereafter.

United Kingdom
The United Kingdom comprises England, Wales, Scotland and Northern Ireland. The Channel Islands and the Isle of Man are not part of the United Kingdom.

Population
The estimated and projected resident population of an area includes all people who usually live there, whatever their nationality. Members of HM and US Armed Forces in the United Kingdom are included on a residential basis wherever possible. HM Forces stationed outside the United Kingdom are not included. Students are taken to be resident at their term time addresses.
Further information can be found at: www.statistics.gov.uk/popest

Live births
For England and Wales, figures relate to the number of births occurring in a period; for Scotland and Northern Ireland, figures relate to births registered in a period. By law, births must be registered within 42 days in England and Wales, within 21 days in Scotland, and within 42 days in Northern Ireland. In England and Wales, where a birth is registered later than the legal time period, and too late to be included in the count for the year of occurrence, it will be included in the count for the following year.

The age-specific fertility rate (ASFR), is the number of births per 1,000 women in the stated age group. The total fertility rate (TFR), is the average number of children that a group of women would have if they experienced the ASFRs for a particular year throughout their childbearing lives. The TFR reflects the current intensity of childbearing and the rate at which the population replaces itself. The TFR is a synthetic measure since ASFRs do not normally remain stable during the childbearing life span of a woman.

Perinatal mortality
In October 1992 the legal definition of a stillbirth was changed, from a baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

Period expectation of life
The life tables on which these expectations are based use death rates for the given period to describe mortality levels for each year. Each individual year shown is based on a three-year period, so that for instance 1986 represents 1985–87. Further information can be found at www.statistics.gov.uk/StatBase/Product.asp?vlnk=14459

Deaths
Figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring each year from 1993 and 2005. Figures for 2006 onwards relate to registrations. All infant, neonatal and perinatal mortality data represents registrations. All figures for Scotland and Northern Ireland relate to the number of deaths registered in each year.

Coding cause of death
Between 1 January 1984 and 31 December 1992, ONS applied its own interpretation of the International Classification of Diseases (ICD) Section Rule 3 in the coding of deaths where terminal events and other 'modes of dying' such as cardiac arrest, cardiac failure, certain thrombembolic disorders, and unspecified pneumonia and bronchopneumonia, were stated by the certifier to be the underlying cause of death and other major pathology appeared on the certificate. In these cases ONS Rule 3 allowed the terminal event to be considered a direct sequel to the major pathology and that primary condition was selected as the underlying cause of death. Prior to 1984 and between 1 January 1993 and 31 December 2000, such certificates were coded to the terminal event. ONS also introduced automated coding of cause of death in 1993, which may also affect comparisons of deaths by cause from 1993. Further details can be found in the annual volumes *Mortality statistics: Cause 1984*, Series DH2 no. 11, and *Mortality statistics: Cause 1993 (revised) and 1994*, Series DH2 no. 21.

From 1 January 2001, under ICD–10, Rule 3 was again changed – for details see the article in *Health Statistics Quarterly* 13. This resulted in a fall in the death rates from respiratory diseases, notably pneumonia, and consequently slight rises in the rates for other causes (for example strokes). For details of the major changes between ICD–9 and ICD–10, see the articles in *Health Statistics Quarterly* 08, 13 and 14.

Age-standardised mortality
Directly age-standardised rates make allowances for changes in the age structure of the population. The age-standardised rate for a particular condition is that which would have occurred if the observed age-specific rates for the condition had applied in a given standard population. Table 2.2 uses the European Standard Population. This is a hypothetical population standard which is the same for both males and females allowing standardised rates to be compared for each sex, and between males and females.

Abortions
Figures relate to numbers occurring in a period.

International Migration
The UN recommends the following definition of an international long-term migrant:
An *international long-term migrant* is defined as a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence.
Long-Term International Migration estimates are compiled from several main sources of migration data:
• The richest source of information on international migrants comes from the International Passenger Survey (IPS), which is a sample survey of passengers arriving at, and departing from, the main United Kingdom air and sea ports and Channel Tunnel. This survey provides migration estimates based on respondents' *intended* length of stay in the UK or abroad and excludes most persons seeking asylum and some dependants of such asylum seekers.
• Two adjustments are made to account for people who do not realise their intended length of stay on arrival. First, visitor data from the IPS are used to estimate 'visitor switchers': those people who initially come to or leave the UK for a short period but subsequently stay for a year or longer. Second, people who intend to
be migrants, but who in reality stay in the UK or abroad for less than a year ('migrant switchers'), are estimated from IPS migrant data.
• Home Office data on asylum seekers and their dependants.
• From 2008 onwards, data from the Northern Ireland Statistics and Research Agency is used to estimate international migration to and from Northern Ireland.
• For 1991-2007, estimates of migration between the UK and the Irish Republic are estimated using information from the Irish Quarterly National Household Survey and the National Health Service Central Register. From 2008, the IPS has been used to measure these flows.

Further information on long-term migration estimates can be found at www.statistics.gov.uk/StatBase/Product.asp?vlnk=507

Internal Migration
Figures in Table 8.1 are based on the movement of NHS doctors' patients between former Health Authorities (HAs) in England and Wales, and Area Health Boards in Scotland and Northern Ireland. Yearly and quarterly figures have been adjusted to take account of differences in recorded cross-border flows between England and Wales, Scotland and Northern Ireland.

Estimates of internal migration are based on the date of acceptance of the new patient by the HA and a one month time lag is assumed. It has been established that NHSCR data under-report the migration of males aged between 16 and 36 (See http://www.statistics.gov.uk/downloads/theme_population/Revising_Internal_Migration_Estimates.pdf.)

Marriages and divorces
Marriages are tabulated according to date of solemnisation. Divorces are tabulated according to date of decree absolute. The term 'divorces' includes decrees of nullity. The fact that a marriage or divorce has taken place in England, Wales, Scotland or Northern Ireland does not mean either of the parties is resident there.

Civil Partnerships
The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK, the first day couples could give notice of their intention to form a civil partnership. The first day that couples could formally form a partnership was 19 December 2005 in Northern Ireland, 20 December 2005 in Scotland and 21 December 2005 in England and Wales. (18 civil partnerships were formed under special arrangements before these dates. These are included in the figures for England and Wales).

Civil partnerships are tabulated according to date of formation and area of occurrence. The fact that a civil partnership has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean either of the parties is resident there.

EU Enlargement
The coverage of European countries in Table 1.1 has been updated to reflect the enlargement of the EU to 27 member countries (EU27). On 1 May 2004, 10 new member countries were added: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. On 1 January 2007 a further 2 countries were added: Bulgaria and Romania.

Sources
Figures for Scotland and Northern Ireland have been provided by the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency respectively. The International Passenger Survey (see International migration) is conducted by the Surveys and Administrative Sources Directorate of ONS.

Calculating quarterly rates
Quarterly rates are calculated using seasonal adjustments which take into account the number of days in the month/year. The denominators used for calculating quarterly rates have been produced from mid-year population estimates and projections.

Rounding
All figures are rounded independently; constituent parts may not add to totals. Generally numbers and rates per 1,000 population are rounded to one decimal place (e.g. 123.4); where appropriate, for small figures (below 10.0), two decimal places are given (e.g. 7.62). Figures which are provisional or estimated are given in less detail (e.g. 123 or 7.6 respectively) if their reliability does not justify giving the standard amount of detail. Where figures need to be treated with particular caution, an explanation is given as a footnote.

Latest figures
Figures for the latest quarters and years may be provisional, these will be updated in final figures when data is available. Where figures are not yet available, cells are left blank.

Tables

			Page
	Population		
1.1	International	Selected countries	84
1.2	National	Constituent countries of the United Kingdom	87
1.3	Subnational	Government Office Regions of England	88
1.4	Age and sex	Constituent countries of the United Kingdom	89
1.5	Age, sex and legal marital status	England and Wales	92
	Vital statistics		
2.1	Summary	Constituent countries of the United Kingdom	94
2.2	Key demographic and health indicators	Constituent countries of the United Kingdom	97
	Live births		
3.1	Age of mother	England and Wales	99
3.2	Outside marriage: age of mother and type of registration	England and Wales	100
	Conceptions and abortions		
4.1	Age of women at conception	England and Wales (residents)	101
4.2	Abortions: age and gestation.	England and Wales	105
	Expectation of life		
5.1	(In years) at birth and selected age	Constituent countries of the United Kingdom	107
	Deaths		
6.1	Age and sex	England and Wales	108
6.2	Subnational	Government Office Regions of England	110
6.3	Selected causes and sex	England and Wales	112

Table 1.1 Population and vital rates: international

Selected Countries

Numbers (thousands)/Rates per thousand

Year	United Kingdom	Austria	Belgium	Bulgaria	Cyprus[1]	Czech Republic	Denmark[2]	Estonia	Finland[3]	France[4]	Germany[5]	Greece[6]	Hungary
Population (thousands)													
1971	55,928	7,460	9,673	8,540	610	9,851	4,963	1,369[J]	4,620	51,251	78,710	8,831	10,370
1976	56,216	7,566	9,811	8,759	613	10,128	5,073	1,435[J]	4,726	52,909	78,299	9,167	10,589
1981	56,357	7,559	9,852	8,891	634	10,303	5,122	1,482[J]	4,800	54,182	78,399	9,729	10,712
1986	56,684	7,565	9,862	8,958	650	10,341	5,121	1,532	4,918	55,546	77,635	9,967	10,534
1991	57,439	7,813	9,979	8,982	693	10,309	5,154	1,566	5,014	57,055	79,984	10,247	10,346
1996	58,164	7,959	10,157	8,363	661	10,315	5,262	1,416	5,125	58,026	81,896	10,709	10,193
2001	59,113	8,042	10,287	7,913	701[17]	10,224	5,359	1,364	5,188	59,476	82,340	10,950	10,188
2002	59,319	8,082	10,333	7,869	710[17]	10,201	5,374	1,359	5,201	59,894	82,482	10,988	10,159
2003	59,552	8,118	10,372	7,824	721[17]	10,202	5,387	1,354	5,213	60,304	82,520	11,024	10,130
2004	59,842	8,169	10,417	7,781	737[17]	10,207	5,401	1,349	5,228	60,734	82,501	11,062	10,107
2005	60,235	8,225	10,473	7,740	758[17]	10,234	5,416	1,346	5,246	61,181	82,464	11,104	10,087
2006	60,584	8,268	10,542	7,699	771[17]	10,267	5,435	1,344	5,266	61,585[P]	82,366	11,149	10,071
2007	60,986	8,301	10,623	7,660	785[17]	10,323	5,457	1,342	5,289	61,938[P]	82,263	11,193	10,056
2008	61,398	8,337	10,711	7,623	793[17,P]	10,430	5,489	1,341	5,313	62,277[P]	82,127[P]	11,237	10,038
2009	61,792	..	..	7,585[P]	799[17,P]	10,491[P]	5,519	1,340[P]	5,337[P]	62,613[P]	81,735[P]	..	10,020[P]
Population changes (per 1,000 per annum)													
1971-76	1.0	2.8	2.9	5.1	1.0	5.6	4.4	9.6	4.6	6.5	–1	7.6	4.2
1976-81	0.5	–0.2	0.8	3.0	6.9	3.5	1.9	6.6	3.1	4.8	0.3	12.3	2.3
1981-86	1.2	0.2	0.2	1.5	5.0	0.7	0.0	6.7	4.9	5.0	–1.9	4.9	–3.3
1986-91	2.7	6.6	2.4	0.5	13.2	–0.6	1.3	4.4	3.9	5.4	6.1	5.6	–3.6
1991-96	2.5	3.7	3.6	–13.8	–9.2	0.1	4.2	–19.2	4.4	3.4	4.8	9.0	–3.0
1996-01	3.3	2.1	2.6	–10.8	12.1	–1.8	3.7	–7.3	2.5	5.0	1.1	4.5	–0.1
2001-02	3.5	5.0	4.5	–5.6	12.8	–2.2	2.8	–3.7	2.5	7.0	1.7	3.5	–2.8
2002-03	3.9	4.5	3.8	–5.7	15.5	0.1	2.4	–3.7	2.3	6.8	0.5	3.3	–2.9
2003-04	4.9	6.3	4.3	–5.5	22.2	0.5	2.6	–3.7	2.9	7.1	–0.2	3.4	–2.3
2004-05	6.6	6.9	5.4	–5.3	28.5	2.6	2.8	–2.2	3.4	7.4	–0.4	3.8	–2.0
2005-06	5.8	5.2	6.6	–5.3	17.2	3.2	3.5	–1.5	3.8	6.6	–1.2	4.1	–1.6
2006-07	6.6	4.0	7.7	–5.1	18.2	5.5	4.0	–1.5	4.4	5.7	–1.3	3.9	–1.5
2007-08	6.8	4.3	8.3	–4.8	10.2	10.4	5.9	–0.7	4.5	5.5	–1.7	3.9	–1.8
2008-09	6.4	..	..	–5.0	7.6	5.8	5.5	–0.7	4.5	5.4	–4.8	..	–1.8
Live birth rate (per 1,000 population per annum)													
1971-75	14.1	13.3	13.3	16.5	18.2	17.8	14.6	15.4	13.1	16.0	11.0	15.8	16.1
1976-80	12.5	11.5	12.5	12.5	19.5	17.1	12.0	15.1	13.6	14.1	10.5	15.6	15.8
1981-85	12.9	12.1	12.0	13.7	22.3	13.5	10.2	15.8	13.4	14.2	10.7	13.3	12.4
1986-90	13.7	11.6	12.1	12.7	19.6	12.7	11.5	15.5	12.6	13.7	11.2	10.5	12.0
1991-95	13.2	11.8	12.0	9.8	17.1	11.1	13.1	10.6	12.8	12.7	9.8	9.9	11.5
1996-00	12.2	10.3	11.2	8.3	13.2	8.8	12.6	9.2	11.3	12.7	9.6	9.9	9.8
2001	11.3	9.4	11.1	8.6	11.6	8.9	12.2	9.3	10.8	13.0	8.9	9.3	9.5
2002	11.3	9.7	10.8	8.5	11.1	9.6	11.9	9.6	10.7	12.7	8.7	9.5	9.5
2003	11.7	9.5	10.8	8.6	11.2	9.2	12.0	9.6	10.9	12.6	8.6	9.5	9.3
2004	12.0	9.7	11.1	9.0	11.3	9.6	12.0	10.4	11.0	12.6	8.6	9.6	9.4
2005	12.0	9.5	11.3	9.2	10.9	10.0	11.9	10.7	11.0	12.7	8.3	9.7	9.7
2006	12.4	9.4	11.5	9.6	11.3	10.3	11.9	11.1	11.2	12.9	8.2	10.0	9.9
2007	12.7	9.2	11.4	9.8	10.9	11.1	11.7	11.8	11.1	12.7	8.3	10.0	9.7
2008	12.9	9.3	11.7	10.2	11.6	11.5	11.8	12.0	11.2	12.8	8.3	10.5	9.9
2009	12.8[P]	9.1	..	10.7	11.6	11.1	11.4	11.8	11.3	12.9	8.0	..	9.6
Death rate (per 1,000 population per annum)													
1971-75	11.8	12.6	12.1	9.8	8.1	12.4	10.1	11.2	9.5	10.7	12.3	8.6	11.9
1976-80	11.9	12.3	11.6	10.7	8.7	12.5	10.5	12.1	9.3	10.2	12.2	8.9	12.9
1981-85	11.7	12.0	11.3	11.3	8.4	12.8	11.1	12.4	9.3	10.1	12.0	9.0	13.7
1986-90	11.4	11.1	10.8	11.9	8.9	12.4	11.5	11.9	9.8	9.5	11.6	9.3	13.9
1991-95	11.1	10.4	10.4	12.9	8.0	11.6	11.8	13.8	9.8	9.2	11.0	9.4	14.3
1996-00	10.7	9.9	10.3	14.1	7.7	10.8	11.2	13.5	9.6	9.1	10.4	9.5	13.9
2001	10.2	9.3	10.1	14.2	6.9	10.5	10.9	13.6	9.4	8.9	10.1	9.4	13.0
2002	10.2	9.4	10.2	14.3	7.3	10.6	10.9	13.5	9.5	8.9	10.2	9.5	13.1
2003	10.3	9.5	10.3	14.3	7.2	10.9	10.7	13.4	9.4	9.2	10.3	9.6	13.4
2004	9.7	9.1	9.8	14.2	7.1	10.5	10.3	13.1	9.1	8.4	9.9	9.5	13.1
2005	9.7	9.1	9.9	14.6	7.2	10.5	10.1	12.9	9.1	8.6	10.1	9.5	13.5
2006	9.4	9.0	9.6	14.7	6.7	10.2	10.2	12.9	9.1	8.4	10.0	9.5	13.1
2007	9.4	9.0	9.5	14.8	6.9	10.1	10.2	13.0	9.3	8.4	10.1	9.8	13.2
2008	9.4	9.0	..	14.5	6.5	10.1	9.9	12.4	9.2	8.6	10.3	9.6	13.0
2009	9.1[P]	9.3	..	14.2	..	10.2	9.9	12.1	9.3	..	10.3	..	13.0

Note: Estimated population is mid-year throughout, unless otherwise indicated – see the United Nations Monthly Bulletin of Statistics and the *United Nations Demographic Yearbook*.

Live birth and death rates are taken from the *United Nations Monthly Bulletin of Statistics* and the *United Nations Demographic Yearbook* (latest update July 2010).

The UK figures in this table include the revised 2002–2008 population estimates which were published on 13 May 2010.

Table 1.1 continued **Population and vital rates: international**

Selected Countries

Numbers (thousands)/Rates per thousand

Year	Irish Republic	Italy	Latvia	Lithuania	Luxembourg	Malta[7]	Netherlands	Poland[8]	Portugal[9]	Romania	Slovakia	Slovenia	Spain[10]	Sweden
1971	2,980	54,010	2,366[J]	3,160[J]	340	330	13,194	32,800	8,990	20,470	4,559	1,738	34,130	8,100
1976	3,228	55,701	2,465[J]	3,315[J]	361	329	13,770	34,362	9,666	21,446	4,789	1,819	35,971	8,222
1981	3,440	56,508	2,515[J]	3,422[J]	365	322	14,246	35,902	9,855	22,353	5,017	1,917	37,751	8,320
1986	3,541	57,246	2,600	3,579	368	342	14,564	37,456	10,011	22,823	5,193	1,981	38,604	8,370
1991	3,526	56,751	2,662	3,742	387	358	15,070	38,245	9,871	23,185	5,283	2,002	38,920	8,617
1996	3,636	56,860	2,457	3,602	414	374	15,530	38,289	10,058	22,608	5,374	1,991	39,479	8,841
2001	3,847[18]	56,977	2,355	3,481	442	385	16,046	38,251	10,293	22,408	5,380	1,992	40,721	8,896
2002	3,920[18]	57,157	2,339	3,469	446	387	16,149	38,232	10,368	21,795	5,379	1,996	41,314	8,925
2003	3,979[18]	57,605	2,325	3,454	452	399	16,225	38,195	10,441	21,734	5,379	1,997	42,005	8,958
2004	4,044[18]	58,175	2,313	3,436	458	401	16,282	38,180	10,502	21,673	5,383	1,997	42,692	8,994
2005	4,131[18]	58,607	2,301	3,414	465	404	16,320	38,161	10,549	21,624	5,387	2,001	43,398	9,030
2006	4,235[18]	58,941	2,288	3,394	473	406	16,346	38,132	10,584	21,584	5,391	2,009	44,068	9,081
2007	4,339[18,P]	59,375	2,276	3,376	480	409	16,382	38,116	10,608	21,538	5,398	2,019	44,874	9,148
2008	4,422[18,P]	59,832	2,266	3,358	489	412	16,446	38,116[P]	10,622	21,504	5,407	2,023	45,593	9,220
2009	4,459[18,P]	..	..	3,339[P]	..	..	16,514[P]	38,153[P]	..	21,500[P]	5,417[P]	2,042[P]	45,929	9,292[P]
Population changes (per 1,000 per annum)														
1971-76	16.6	6.3	8.4	9.8	12.4	–0.6	8.7	9.5	15.0	9.5	10.1	9.3	10.8	3.0
1976-81	13.1	2.9	4.1	6.5	2.2	–4.3	6.9	9.0	3.9	8.5	9.5	10.8	9.9	2.4
1981-86	5.9	2.6	6.8	9.2	1.6	12.4	4.5	8.7	3.2	4.2	7.0	6.7	4.5	1.2
1986-91	–0.8	–1.7	4.8	9.1	10.3	9.4	6.9	4.2	–2.8	3.2	3.5	2.1	1.6	5.9
1991-96	6.2	0.4	–15.4	–7.5	14.0	8.9	6.1	0.2	3.8	–5.0	3.4	–1.1	2.9	5.2
1996-01	11.6	0.4	–8.3	–6.7	13.5	5.9	6.6	–0.2	4.7	–1.8	0.2	0.1	6.3	1.2
2001-02	19.0	3.2	–6.8	–3.4	9.0	5.2	6.4	–0.5	7.3	–27.4	–0.2	2.0	14.6	3.3
2002-03	15.1	7.8	–6.0	–4.3	13.5	31.0	4.7	–1.0	7.0	–2.8	0.0	0.5	16.7	3.7
2003-04	16.3	9.9	–5.2	–5.2	13.3	5.0	3.5	–0.4	5.8	–2.8	0.7	0.0	16.4	4.0
2004-05	21.5	7.4	–5.2	–6.4	15.3	7.5	2.3	–0.5	4.5	–2.3	0.7	2.0	16.5	4.0
2005-06	25.2	5.7	–5.6	–5.9	17.2	5.0	1.6	–0.8	3.3	–1.8	0.7	4.0	15.4	5.6
2006-07	24.6	7.4	–5.2	–5.3	14.8	7.4	2.2	–0.4	2.3	–2.1	1.3	5.0	18.3	7.4
2007-08	19.1	7.7	–4.4	–5.3	18.8	7.3	3.9	0.0	1.3	–1.6	1.7	2.0	16.0	7.9
2008-09	8.4	..	..	–5.7	..	.	4.1	1.0	..	–0.2	1.8	9.4	7.4	7.8
Live birth rate (per 1,000 population per annum)														
1971-75	22.2	15.9	14.4	16.4	11.6	17.5	14.9	18.0	19.5	19.3	19.7	16.4	19.2	13.5
1976-80	21.3	12.6	13.9	15.5	11.2	18.4	12.7	19.3	17.7	18.9	20.3	16.2	17.0	11.6
1981-85	19.2	10.6	15.2	16.0	11.6	17.2	12.2	19.0	14.5	15.6	18.0	14.2	12.8	11.3
1986-90	15.9	9.7	15.3	15.8	12.1	16.0	12.8	15.5	12.2	15.8	15.8	12.3	10.7	13.2
1991-95	14.0	9.6	10.7	13.1	13.3	11.0	12.8	12.9	11.3	11.1	13.3	10.0	9.8	13.3
1996-00	14.3	9.3	8.0	10.4	13.1	12.1	12.6	10.4	11.3	10.4	10.7	9.1	9.4	10.2
2001	15.1	9.2	8.3	9.1	12.4	10.1	12.6	9.6	11.0	9.8	9.5	8.8	10.0	10.3
2002	15.4	9.4	8.6	8.7	12.0	10.1	12.5	9.3	11.0	9.7	9.5	8.8	10.1	10.7
2003	15.5	9.4	9.0	8.9	11.7	10.2	12.3	9.2	10.8	9.8	9.6	8.7	10.5	11.1
2004	15.3	9.7	8.8	8.9	11.9	9.7	11.9	9.3	10.4	10.0	10.0	9.0	10.6	11.2
2005	14.9	9.5	9.3	8.9	11.5	9.6	11.5	9.5	10.4	10.2	10.1	9.1	10.7	11.2
2006	15.2	9.5	9.7	9.2	11.7	9.6	11.3	9.8	10.0	10.2	10.0	9.4	11.0	11.7
2007	16.3	9.5	10.2	9.6	11.4	9.5	11.1	10.2	9.7	10.0	10.1	9.8	11.0	11.7
2008	17.0	9.6	10.6	10.4	11.5	10.0	11.2	10.9	9.8	10.3	10.6	10.8	11.4	11.9
2009	16.8	..	..	11.0	11.4	.	11.2	11.2	..	10.4	11.3	10.6	12.3	12.0
Death rate (per 1,000 population per annum)														
1971-75	11.0	9.8	11.6	9.0	12.2	9.0	8.3	8.4	10.5	9.4	9.4	10.0	8.5	10.5
1976-80	10.2	9.7	12.6	10.1	11.5	9.5	8.1	9.2	10.0	9.8	9.8	9.8	8.0	10.9
1981-85	9.4	9.5	12.8	10.6	11.2	9.1	8.3	9.6	9.6	10.3	10.1	10.2	7.8	11.0
1986-90	9.1	9.3	12.4	10.3	10.5	7.9	8.5	10.0	9.8	10.8	10.1	9.6	8.2	11.1
1991-95	8.8	9.7	10.4	12.0	9.7	7.5	8.7	10.2	10.3	11.5	9.9	9.7	8.7	10.8
1996-00	8.5	9.9	13.9	11.5	9.1	7.8	8.8	9.9	10.5	12.0	9.7	9.5	9.0	10.6
2001	7.9	9.6	14.0	11.6	8.4	7.6	8.7	9.5	10.2	11.6	9.7	9.3	8.9	10.5
2002	7.6	9.8	13.9	11.8	8.4	7.8	8.8	9.4	10.2	12.4	9.6	9.4	8.9	10.6
2003	7.3	10.2	13.9	11.9	9.0	7.9	8.7	9.6	10.4	12.3	9.7	9.7	9.2	10.4
2004	7.1	9.4	13.8	12.0	7.8	7.5	8.4	9.5	9.7	11.9	9.6	9.3	8.7	10.1
2005	6.8	9.7	14.2	12.8	7.8	7.8	8.4	9.7	10.2	12.1	9.9	9.4	8.9	10.2
2006	6.5	9.5	14.5	13.2	8.0	7.9	8.3	9.7	9.6	12.0	9.9	9.1	8.4	10.0
2007	6.5	9.7	14.5	13.5	8.1	7.6	8.1	9.9	9.8	11.7	10.0	9.2	8.6	10.0
2008	6.4	9.7	13.7	13.1	7.4	7.9	8.2	10.0	9.8	11.8	9.8	9.1	8.6	9.9
2009	..	..	..	12.6	7.4	..	8.1	10.1	..	12.0	..	9.2	..	9.7

1 Republic of Cyprus – Data refer to Government controlled areas.
2 Denmark – Excluding Faeroe Islands and Greenland.
3 Finland – Including Aland Islands.
4 France – Excludes diplomatic personnel outside the country and includes members of alien armed forces not living in military camps and foreign diplomatic personnel not living in embassies or consulates. Also Excludes Overseas Departments; namely; French Guiana; Guadeloupe; Martinique and Reunion.
5 Including former GDR throughout.
6 Greece – population excludes armed forces stationed outside the country but includes alien forces stationed in the area.
7 Malta – including work and resident permit holders and foreigners residing in Malta
8 Poland – excluding civilian aliens within the country but including civilian nationals temporarily outside the country.
9 Portugal – including the Azores and Madeira islands.
10 Spain – including the Balearic and Canary Islands.
11 For 1971 the European Union consisted of the 6 original member countries. This has since been expanded to include: 9 countries (1976-EU15); 10 countries (2004-EU25); 2 countries (2007-EU27). In this table, all totals include the EU27
12 Population estimates for Canada have been adjusted for census net undercoverage (including adjustment for incompletely enumerated Indian reserves).
Estimates for 2001–2005 are final intercensal estimates. Estimates for 2006 are final postcensal estimates. Estimates for 2007 are updated postcensal estimates. Estimates for 2008 are preliminary postcensal estimates.
Birth rates for 2007–2009 taken from *Statistics Canada*.
China – For statistical purposes all data for China do not include those for the Hong Kong SAR, Macao SAR and Taiwan province of China.
Population data have been estimated on the basis of the annual National Sample Surveys on Population Changes.
14 India – Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.
Population data for 2002 onwards refer to national projections.
15 Japan – excluding diplomatic personnel outside the country and foreign military and civilian personnel and their dependants stationed in the area.
16 USA – excluding armed forces overseas and civilian citizens absent from the country for extended periods.
17 Indicates population estimates of uncertain reliability.
18 Data refer to 15 April.
19 Data for 2005 are estimated from the National Sample Survey of 1 per cent population.
20 Rate is for 1990–1995.
P Provisional, preliminary or estimated figure.
J Denotes population estimates as at 1 January.

Sources: Office for National Statistics, United Nations.

Table 1.1 continued Population and vital rates: international

Selected Countries

Numbers (thousands)/Rates per thousand

Year	EU[11]	Russian Federation	Australia	Canada[12]	New Zealand	China[13]	India[14]	Japan[15]	USA[16]
Population (thousands)									
1971	439,343	130,934	12,940	21,590	2,850	840,030[17]	551,230	105,700	206,220
1976	450,735	135,027	14,033	22,993	3,111	943,033[17]	613,273	112,775	218,035
1981	459,955	139,225	14,923	24,342	3,125	1,008,460[17]	690,000	117,661	229,945
1986	465,991	144,156	16,018	25,353	3,277	1,086,733[17]	767,199	121,482	240,680
1991	473,200	148,245	17,284	28,031	3,477	1,169,911[17]	851,897	123,964	252,639
1996	477,759	148,160	18,311	29,611	3,732	1,217,550[17]	942,157[17]	125,757	269,394
2001	482,619	145,976	19,413	31,019	3,881	1,271,850[17]	1,034,931[17]	127,149	285,115
2002	483,847	145,306	19,651	31,354	3,949	1,280,400[17]	1,051,258[17]	127,445	287,888
2003	485,869	144,566	19,895	31,640	4,027	1,288,400[17]	1,068,065[17]	127,718	290,448
2004	488,065	143,821	20,127	31,941	4,088	1,296,075[17]	1,084,757[17]	127,761	293,192
2005	490,301	143,114	20,395	32,245	4,134	1,303,720[17,19]	1,101,318[17]	127,773	295,896
2006	492,279	142,487	20,698	32,576	4,185	1,311,020[17]	1,117,734[17]	127,756	298,755
2007	494,554	142,115	21,072	32,932	4,228	1,324,655[17]	1,134,023[17]	127,772	301,621
2008	496,824	141,956	21,499[P]	33,327	4,269	..	1,150,196[17]	127,704	304,060
2009	..	..	21,955[P]	33,740[P]	4,316	..	1,166,000[17,P]	127.558[P]	..
Population changes (per 1,000 per annum)									
1971-76	5.2	6.3	16.9	13.0	18.3	24.5	22.5	13.4	11.5
1976-81	4.1	6.2	12.7	11.7	0.9	13.9	25.0	8.7	10.9
1981-86	2.6	7.1	14.7	8.3	9.7	15.5	22.4	6.5	9.3
1986-91	3.1	5.7	15.8	21.1	12.2	15.3	22.1	4.1	9.9
1991-96	1.9	–1.7	11.9	11.3	14.7	10.3	21.2	2.9	12.1
1996-01	2.0	–2.9	12.0	9.5	8.0	8.9	19.7	2.2	11.7
2001-02	2.5	–4.6	12.3	10.8	17.5	6.7	15.8	2.3	9.7
2002-03	4.2	–5.1	12.4	9.1	19.8	6.2	16.0	2.1	8.9
2003-04	4.5	–5.2	11.7	9.5	15.1	6.0	15.6	0.3	9.4
2004-05	4.6	–4.9	13.3	9.5	11.3	5.9	15.3	0.1	9.2
2005-06	4.0	–4.4	14.9	10.3	12.3	5.6	14.9	–0.1	9.7
2006-07	4.6	–2.6	18.1	10.9	10.3	10.4	14.6	0.1	9.6
2007-08	4.6	–1.1	20.3	12.0	9.7	..	14.3	–0.5	8.1
2008-09	..	..	21.2	12.4	11.0	..	13.7	–1.1	..
Live birth rate (per 1,000 population per annum)									
1971-75	15.3	17.9	18.9	15.9	20.6	27.2	35.6	18.6	15.4
1976-80	14.1	18.3	15.7	15.5	16.9	18.6	33.4	14.8	15.2
1981-85	13.1	17.6	15.6	15.1	16.0	19.2	..	12.5	14.8
1986-90	12.6	15.7	15.1	14.3	17.1	..	..	10.6	13.0
1991-95	11.4	10.2	14.7	13.7	16.4	18.5[20]	..	9.7	13.1
1996-00	10.6	8.6	13.4	11.4	14.9	12.7	..	9.5	14.3
2001	10.4	9.0	12.7	10.8	14.4	13.4	25.4	9.2	14.1
2002	10.3	9.6	12.7	10.5	13.7	12.9	25.0	9.2	14.0
2003	10.3	10.2	12.6	10.6	13.9	12.4	24.8	8.9	14.1
2004	10.4	10.4	12.6	10.6	14.2	12.3	24.1	8.8	14.0
2005	10.4	10.2	12.7	10.6	14.0	12.4	23.8	8.4	14.0
2006	10.6	10.4	12.8	10.7	14.1	12.1	23.5	8.7	14.3
2007	10.6	11.3	13.5	11.0	15.1	12.0	23.1	8.6	14.3
2008	10.9	12.1	13.8	11.2	15.1	..	22.8	8.7	..
2009	10.8	12.4	..	11.3[P]	14.5	.	..	..	..
Death rate (per 1,000 population per annum)									
1971-75	10.5	8.7	8.3	7.4	8.4	7.3	15.5	6.4	9.2
1976-80	10.5	9.9	7.6	7.2	8.2	6.6	13.8	6.1	8.7
1981-85	10.5	10.9	7.3	7.1	8.1	6.7	..	6.1	8.6
1986-90	10.4	10.7	7.2	7.0	8.2	..	..	6.4	8.7
1991-95	10.4	13.7	7.0	7.1	7.6	..	..	6.9	8.7
1996-00	10.2	14.2	6.9	7.2	7.2	5.2	..	7.4	8.5
2001	9.9	15.4	6.6	7.1	7.2	6.4	8.4	7.6	8.5
2002	9.9	16.1	6.8	7.1	7.1	6.4	8.1	7.8	8.5
2003	10.1	16.4	6.6	7.1	7.0	6.4	8.0	8.0	8.4
2004	9.6	16.0	6.6	7.1	7.0	6.4	7.5	8.1	8.2
2005	9.8	16.1	6.4	7.1	6.5	6.5	7.6	8.6	8.3
2006	9.6	15.2	6.5	7.0	6.7	6.8	7.5	8.6	8.1
2007	9.7	14.6	6.5	7.1	6.7	6.9	7.4	8.8	8.0
2008	..	14.6	6.7	7.2	6.8	..	7.4	9.1	..
2009	..	14.2	6.4	..	6.7	..	..	9.1	..

Table 1.2 Mid Year Population: national

Constituent countries of the United Kingdom

Numbers (thousands) and percentage age distribution

Mid-year	United Kingdom	Great Britain	England and Wales	England	Wales	Scotland	Northern Ireland
Estimates							
1971	55,928	54,388	49,152	46,412	2,740	5,236	1,540
1976	56,216	54,693	49,459	46,660	2,799	5,233	1,524
1981	56,357	54,815	49,634	46,821	2,813	5,180	1,543
1986	56,684	55,110	49,999	47,188	2,811	5,112	1,574
1991	57,439	55,831	50,748	47,875	2,873	5,083	1,607
1992	57,585	55,961	50,876	47,998	2,878	5,086	1,623
1993	57,714	56,078	50,986	48,102	2,884	5,092	1,636
1994	57,862	56,218	51,116	48,229	2,887	5,102	1,644
1995	58,025	56,376	51,272	48,383	2,889	5,104	1,649
1996	58,164	56,503	51,410	48,519	2,891	5,092	1,662
1997	58,314	56,643	51,560	48,665	2,895	5,083	1,671
1998	58,475	56,797	51,720	48,821	2,900	5,077	1,678
1999	58,684	57,005	51,933	49,033	2,901	5,072	1,679
2000	58,886	57,203	52,140	49,233	2,907	5,063	1,683
2001	59,113	57,424	52,360	49,450	2,910	5,064	1,689
2002	59,319	57,622	52,567	49,649	2,918	5,055	1,697
2003	59,552	57,850	52,792	49,863	2,929	5,057	1,703
2004	59,842	58,132	53,053	50,110	2,943	5,078	1,710
2005	60,235	58,511	53,416	50,466	2,950	5,095	1,724
2006	60,584	58,843	53,726	50,764	2,962	5,117	1,742
2007	60,986	59,227	54,082	51,106	2,976	5,144	1,759
2008	61,398	59,623	54,455	51,465	2,990	5,169	1,775
2009	61,792	60,003	54,809	51,810	2,999	5,194	1,789
2009 by age group (percentages)							
0–4	6.1	6.1	6.1	6.2	5.7	5.6	6.8
5–15	12.6	12.5	12.6	12.6	12.6	12.0	14.5
16–44	39.6	39.6	39.6	39.8	37.0	38.8	40.6
45–64M/59F	22.3	22.3	22.2	22.1	23.0	23.8	21.1
65M/60F–74	11.6	11.7	11.6	11.5	13.0	12.2	10.4
75 and over	7.8	7.9	7.9	7.8	8.6	7.7	6.4
Projections[1]							
2011	62,649	60,834	55,601	52,577	3,024	5,233	1,815
2016	64,773	62,900	57,576	54,472	3,104	5,324	1,874
2021	66,958	65,031	59,620	56,433	3,187	5,411	1,927
2026	69,051	67,080	61,597	58,334	3,263	5,483	1,971
2031	70,933	68,929	63,397	60,071	3,326	5,532	2,005
2031 by age group (percentages)							
0–4	5.6	5.6	5.6	5.7	5.2	4.9	5.6
5–15	12.4	12.4	12.5	12.5	12.1	11.5	13.3
16–44	36.4	36.4	36.5	36.7	34.2	34.6	35.4
45–64[2]	23.3	23.3	23.2	23.2	23.1	24.3	24.1
65–74[2]	10.6	10.6	10.5	10.4	11.7	12.2	10.7
75 and over	11.7	11.7	11.7	11.6	13.6	12.5	10.9

Note: This table includes the revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.
Figures for constituent countries may not sum to United Kingdom, Great Britain and England and Wales totals due to rounding.

1 National projections based on mid-2008 population estimates.

2 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes. Between 2024 and 2026, state pension age will increase from 65 years to 66 years for both men and women.

Sources: Office for National Statistics, General Register Office for Scotland, Northern Ireland Statistics and Research Agency.

Table 1.3 Population: subnational

Government Office Regions of England

Numbers (thousands) and percentage age distribution

Mid-year	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Estimates									
1971	2,679	7,108	4,902	3,652	5,146	4,454	7,529	6,830	4,112
1976	2,671	7,043	4,924	3,774	5,178	4,672	7,089	7,029	4,280
1981	2,636	6,940	4,918	3,853	5,187	4,854	6,806	7,245	4,381
1986	2,594	6,833	4,884	3,908	5,180	4,999	6,774	7,468	4,548
1991	2,587	6,843	4,936	4,011	5,230	5,121	6,829	7,629	4,688
1992	2,591	6,841	4,949	4,037	5,237	5,143	6,829	7,657	4,714
1993	2,594	6,847	4,954	4,056	5,246	5,154	6,844	7,673	4,734
1994	2,589	6,839	4,960	4,072	5,249	5,178	6,874	7,712	4,757
1995	2,583	6,828	4,961	4,092	5,257	5,206	6,913	7,763	4,782
1996	2,576	6,810	4,961	4,108	5,263	5,233	6,974	7,800	4,793
1997	2,568	6,794	4,958	4,120	5,262	5,267	7,015	7,853	4,827
1998	2,561	6,792	4,958	4,133	5,271	5,302	7,065	7,889	4,849
1999	2,550	6,773	4,956	4,152	5,272	5,339	7,154	7,955	4,881
2000	2,543	6,774	4,959	4,168	5,270	5,375	7,237	7,991	4,917
2001	2,540	6,773	4,977	4,190	5,281	5,400	7,322	8,023	4,943
2002	2,540	6,777	5,002	4,222	5,294	5,430	7,369	8,043	4,972
2003	2,540	6,799	5,029	4,254	5,310	5,468	7,380	8,080	5,003
2004	2,541	6,819	5,067	4,292	5,324	5,500	7,413	8,115	5,040
2005	2,548	6,839	5,111	4,327	5,347	5,551	7,485	8,173	5,085
2006	2,553	6,852	5,146	4,363	5,362	5,593	7,547	8,224	5,124
2007	2,560	6,864	5,182	4,397	5,378	5,649	7,602	8,296	5,178
2008	2,571	6,874	5,217	4,429	5,408	5,717	7,668	8,369	5,210
2009	2,584	6,898	5,258	4,451	5,431	5,767	7,754	8,436	5,231
2009 by age group (percentages)									
0–4	5.7	6.1	6.0	5.8	6.3	6.1	7.3	6.0	5.4
5–15	12.1	12.7	12.5	12.5	13.1	12.9	12.0	12.9	12.2
16–44	38.5	38.9	40.1	38.7	38.5	37.9	47.9	38.1	36.4
45–64M/59F	23.5	22.6	22.1	22.9	22.1	22.6	19.0	22.8	23.1
65M/60F–74	12.2	11.9	11.6	12.2	12.0	12.2	8.1	11.8	13.3
75 and over	8.1	7.7	7.7	7.9	8.0	8.3	5.6	8.4	9.6
Projections[1]									
2008	2,571	6,874	5,217	4,429	5,408	5,717	7,668	8,369	5,210
2013	2,622	6,989	5,439	4,611	5,543	6,000	8,007	8,696	5,426
2018	2,676	7,116	5,662	4,798	5,689	6,291	8,338	9,034	5,647
2023	2,733	7,250	5,887	4,990	5,842	6,587	8,646	9,391	5,882
2028	2,786	7,370	6,103	5,173	5,986	6,863	8,923	9,734	6,114
2033	2,830	7,472	6,296	5,334	6,113	7,114	9,188	10,047	6,321
2033 by age group (percentages)									
0–4	5.2	5.5	5.5	5.3	5.9	5.4	6.7	5.4	5.0
5–15	11.9	12.5	12.3	12.2	13.1	12.4	12.5	12.4	11.7
16–44	35.6	35.8	37.7	34.8	35.4	34.0	44.1	34.1	33.2
45–64[2]	22.9	22.7	22.8	23.4	22.4	24.0	22.5	23.8	23.2
65–74[2]	11.6	11.2	10.4	11.5	10.8	11.3	7.3	11.2	12.2
75 and over	12.8	12.2	11.4	12.8	12.4	12.9	6.9	13.1	14.7

Note: This table includes the revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.
Figures may not sum to England totals due to rounding.

1 These projections are based on the 2008 population estimates and are consistent with the 2008-based national projections produced by the Office for National Statistics.

2 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women, to 65 years for both sexes. The projection figures for 2033 are based on a pension age of 65 for both males and females.

Source: Office for National Statistics

Table 1.4 Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F [1]	65M/60F [1] and over
United Kingdom																
Persons																
1981	56,357	730	2,726	8,147	9,019	8,010	6,774	9,540	2,935	5,195	2,677	..	..	12,543	33,780	10,035
1986	56,684	748	2,886	7,143	9,200	8,007	7,711	9,212	3,069	5,020	2,971	716	..	11,645	34,725	10,313
1991	57,439	790	3,077	7,141	8,168	8,898	7,918	9,500	2,888	5,067	3,119	626	248	11,685	35,197	10,557
1996	58,164	719	3,019	7,544	7,231	9,131	7,958	10,553	2,785	5,066	3,129	711	317	12,018	35,498	10,649
2001	59,113	663	2,819	7,624	7,261	8,475	8,846	11,168	2,884	4,947	3,296	753	377	11,863	36,406	10,845
2002	59,319	661	2,752	7,602	7,404	8,261	9,003	11,306	2,892	4,967	3,344	738	388	11,783	36,620	10,915
2003	59,552	680	2,704	7,544	7,579	8,078	9,105	11,410	2,949	5,000	3,399	706	399	11,716	36,824	11,012
2004	59,842	705	2,685	7,473	7,745	7,948	9,185	11,506	3,027	5,028	3,431	702	409	11,641	37,083	11,118
2005	60,235	716	2,712	7,370	7,891	7,931	9,245	11,616	3,114	5,046	3,420	755	419	11,585	37,419	11,232
2006	60,584	732	2,764	7,238	8,026	7,892	9,260	11,744	3,240	5,029	3,416	820	423	11,533	37,708	11,344
2007	60,986	756	2,838	7,126	8,161	7,864	9,246	11,730	3,485	5,058	3,424	873	425	11,507	37,916	11,563
2008	61,398	788	2,912	7,051	8,220	7,907	9,149	11,797	3,641	5,157	3,441	918	417	11,514	38,090	11,794
2009	61,792	784	2,994	7,017	8,220	7,993	9,012	11,946	3,719	5,279	3,458	933	437	11,549	38,236	12,007
Males																
1981	27,412	374	1,400	4,184	4,596	4,035	3,409	4,711	1,376	2,264	922	..	..	6,439	17,646	3,327
1986	27,542	384	1,478	3,664	4,663	4,022	3,864	4,572	1,463	2,206	1,060	166	..	5,968	18,142	3,432
1991	27,909	403	1,572	3,655	4,146	4,432	3,949	4,732	1,390	2,272	1,146	166	46	5,976	18,303	3,630
1996	28,287	369	1,547	3,857	3,652	4,540	3,954	5,244	1,360	2,311	1,187	201	65	6,148	18,375	3,764
2001	28,832	338	1,445	3,906	3,672	4,215	4,382	5,534	1,412	2,308	1,308	227	85	6,077	18,827	3,928
2002	28,961	338	1,407	3,896	3,760	4,113	4,461	5,593	1,414	2,325	1,338	226	89	6,036	18,947	3,978
2003	29,104	349	1,383	3,867	3,858	4,022	4,513	5,644	1,440	2,346	1,369	219	94	6,004	19,072	4,028
2004	29,274	362	1,376	3,831	3,956	3,959	4,545	5,690	1,479	2,365	1,392	223	98	5,969	19,227	4,078
2005	29,493	367	1,389	3,780	4,031	3,951	4,580	5,744	1,523	2,380	1,400	247	103	5,939	19,424	4,130
2006	29,689	374	1,416	3,707	4,110	3,939	4,584	5,803	1,585	2,379	1,413	273	106	5,909	19,609	4,171
2007	29,918	388	1,454	3,646	4,195	3,938	4,575	5,785	1,703	2,398	1,432	295	108	5,893	19,792	4,233
2008	30,154	403	1,492	3,607	4,216	3,986	4,533	5,814	1,780	2,449	1,452	313	108	5,894	19,938	4,323
2009	30,374	402	1,533	3,591	4,211	4,047	4,466	5,884	1,818	2,511	1,472	320	119	5,912	20,040	4,422
Females																
1981	28,946	356	1,327	3,963	4,423	3,975	3,365	4,829	1,559	2,931	1,756	..	..	6,104	16,134	6,708
1986	29,142	364	1,408	3,480	4,538	3,985	3,847	4,639	1,606	2,814	1,911	550	..	5,678	16,583	6,881
1991	29,530	387	1,505	3,487	4,021	4,466	3,968	4,769	1,498	2,795	1,972	460	202	5,709	16,894	6,927
1996	29,877	350	1,472	3,687	3,579	4,591	4,005	5,309	1,426	2,755	1,942	509	252	5,870	17,123	6,885
2001	30,281	324	1,375	3,718	3,589	4,260	4,465	5,634	1,473	2,640	1,987	526	292	5,786	17,579	6,917
2002	30,358	323	1,345	3,706	3,644	4,149	4,542	5,713	1,478	2,642	2,006	513	299	5,748	17,673	6,937
2003	30,448	331	1,321	3,677	3,721	4,056	4,592	5,766	1,509	2,654	2,029	487	305	5,712	17,751	6,984
2004	30,568	343	1,309	3,641	3,789	3,990	4,640	5,816	1,548	2,663	2,040	479	310	5,673	17,855	7,040
2005	30,742	349	1,323	3,590	3,860	3,981	4,665	5,872	1,591	2,666	2,020	509	316	5,645	17,995	7,102
2006	30,895	357	1,349	3,531	3,916	3,953	4,676	5,941	1,656	2,650	2,003	547	317	5,624	18,099	7,172
2007	31,068	368	1,383	3,480	3,966	3,926	4,671	5,945	1,782	2,660	1,992	578	317	5,614	18,124	7,330
2008	31,244	385	1,420	3,444	4,004	3,921	4,616	5,983	1,861	2,708	1,988	605	309	5,620	18,153	7,472
2009	31,418	383	1,462	3,426	4,010	3,946	4,546	6,061	1,901	2,768	1,986	612	318	5,637	18,196	7,585
England and Wales																
Persons																
1981	49,634	634	2,372	7,085	7,873	7,086	5,996	8,433	2,607	4,619	2,388	383	157	10,910	29,796	8,928
1986	49,999	654	2,522	6,226	8,061	7,052	6,856	8,136	2,725	4,470	2,655	461	182	10,161	30,647	9,190
1991	50,748	698	2,713	6,248	7,165	7,862	7,022	8,407	2,553	4,506	2,790	561	223	10,247	31,100	9,400
1996	51,410	637	2,668	6,636	6,336	8,076	7,017	9,363	2,457	4,496	2,801	639	285	10,584	31,353	9,474
2001	52,360	589	2,502	6,740	6,387	7,536	7,816	9,898	2,549	4,377	2,947	677	340	10,495	32,226	9,639
2002	52,567	588	2,444	6,727	6,521	7,354	7,964	10,016	2,555	4,394	2,989	664	351	10,435	32,433	9,699
2003	52,792	607	2,403	6,680	6,685	7,198	8,059	10,102	2,606	4,422	3,037	634	361	10,385	32,623	9,784
2004	53,053	629	2,388	6,616	6,842	7,084	8,133	10,176	2,675	4,445	3,063	632	370	10,323	32,856	9,875
2005	53,416	639	2,414	6,525	6,979	7,073	8,193	10,264	2,757	4,461	3,052	680	378	10,274	33,164	9,978
2006	53,726	653	2,462	6,408	7,101	7,036	8,212	10,369	2,874	4,444	3,045	740	382	10,231	33,418	10,077
2007	54,082	675	2,528	6,311	7,224	7,003	8,207	10,349	3,094	4,469	3,050	787	385	10,210	33,600	10,272
2008	54,455	703	2,595	6,247	7,279	7,038	8,126	10,402	3,238	4,558	3,063	829	378	10,219	33,754	10,482
2009	54,809	699	2,668	6,221	7,278	7,109	8,011	10,533	3,307	4,669	3,077	841	396	10,255	33,882	10,672
Males																
1981	24,160	324	1,218	3,639	4,011	3,569	3,024	4,178	1,227	2,020	825	94	32	5,601	15,589	2,970
1986	24,311	335	1,292	3,194	4,083	3,542	3,438	4,053	1,302	1,972	951	115	35	5,208	16,031	3,072
1991	24,681	356	1,385	3,198	3,638	3,920	3,504	4,199	1,234	2,027	1,029	150	42	5,240	16,193	3,248
1996	25,030	327	1,368	3,393	3,202	4,020	3,489	4,659	1,205	2,059	1,067	182	59	5,416	16,247	3,367
2001	25,574	301	1,281	3,453	3,231	3,758	3,881	4,907	1,252	2,052	1,175	206	77	5,376	16,688	3,510
2002	25,700	301	1,249	3,448	3,312	2,670	3,956	4,957	1,253	2,066	1,202	204	81	5,345	16,802	3,554
2003	25,837	312	1,229	3,424	3,402	3,592	4,006	5,000	1,276	2,084	1,229	198	85	5,322	16,918	3,597
2004	25,991	323	1,224	3,393	3,496	3,536	4,035	5,036	1,310	2,100	1,248	202	89	5,293	17,058	3,640
2005	26,193	327	1,236	3,347	3,566	3,529	4,071	5,080	1,351	2,113	1,256	224	94	5,268	17,239	3,685
2006	26,366	334	1,261	3,282	3,638	3,515	4,077	5,129	1,408	2,111	1,267	248	96	5,243	17,402	3,722
2007	26,570	346	1,296	3,229	3,716	3,511	4,074	5,109	1,513	2,127	1,283	268	99	5,229	17,566	3,776
2008	26,783	360	1,329	3,195	3,736	3,552	4,039	5,133	1,584	2,172	1,300	285	99	5,231	17,696	3,856
2009	26,980	358	1,366	3,183	3,729	3,604	3,982	5,196	1,617	2,228	1,318	290	109	5,249	17,786	3,945
Females																
1981	25,474	310	1,154	3,446	3,863	3,517	2,972	4,255	1,380	2,599	1,564	289	126	5,309	14,207	5,958
1986	25,687	319	1,231	3,032	3,978	3,509	3,418	4,083	1,422	2,498	1,704	346	148	4,953	14,616	6,118
1991	26,067	342	1,328	3,050	3,527	3,943	3,517	4,208	1,319	2,479	1,761	411	181	5,007	14,908	6,152
1996	26,381	310	1,300	3,243	3,134	4,056	3,528	4,704	1,252	2,437	1,734	457	227	5,168	15,106	6,107
2001	26,786	288	1,220	3,287	3,156	3,778	3,935	4,992	1,297	2,326	1,771	471	263	5,119	15,538	6,129
2002	26,867	287	1,195	3,279	3,209	3,684	4,007	5,059	1,302	2,328	1,787	460	270	5,090	15,631	6,146
2003	26,955	295	1,174	3,256	3,283	3,606	4,053	5,102	1,330	2,338	1,808	436	275	5,063	15,705	6,187
2004	27,062	306	1,164	3,223	3,346	3,549	4,098	5,141	1,365	2,345	1,815	430	280	5,029	15,798	6,235
2005	27,224	312	1,178	3,179	3,413	3,545	4,122	5,184	1,406	2,348	1,796	457	285	5,006	15,925	6,292
2006	27,359	319	1,201	3,126	3,463	3,521	4,134	5,240	1,466	2,333	1,778	492	286	4,989	16,015	6,356
2007	27,512	329	1,233	3,082	3,508	3,492	4,132	5,240	1,581	2,342	1,767	520	286	4,982	16,034	6,497
2008	27,672	343	1,266	3,052	3,543	3,486	4,087	5,269	1,654	2,386	1,762	544	279	4,989	16,058	6,626
2009	27,829	341	1,303	3,038	3,548	3,506	4,029	5,337	1,689	2,441	1,759	550	288	5,006	16,096	6,727

Note: This table includes the revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Figures may not sum due to rounding.

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Sources: Office for National Statistics, General Register Office for Scotland, Northern Ireland Statistics and Research Agency.

Table 1.4 continued **Population: age and sex**

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F [1]	65M/60F [1] and over
England																
Persons																
1981	46,821	598	2,235	6,678	7,440	6,703	5,663	7,948	2,449	4,347	2,249	362	149	10,285	28,133	8,403
1986	47,188	618	2,380	5,869	7,623	6,682	6,478	7,672	2,559	4,199	2,501	435	172	9,583	28,962	8,643
1991	47,875	660	2,560	5,885	6,772	7,460	6,633	7,920	2,399	4,222	2,626	529	210	9,658	29,390	8,827
1996	48,519	603	2,523	6,255	5,985	7,667	6,638	8,822	2,310	4,217	2,631	602	269	9,985	29,639	8,895
2001	49,450	558	2,366	6,359	6,032	7,171	7,407	9,327	2,395	4,113	2,764	638	321	9,908	30,487	9,055
2002	49,649	558	2,312	6,347	6,157	7,000	7,550	9,438	2,399	4,129	2,803	625	331	9,854	30,685	9,110
2003	49,863	576	2,274	6,303	6,311	6,853	7,642	9,520	2,445	4,155	2,850	596	340	9,808	30,866	9,188
2004	50,110	597	2,261	6,243	6,459	6,746	7,713	9,590	2,509	4,175	2,876	593	349	9,751	31,085	9,273
2005	50,466	607	2,288	6,158	6,591	6,738	7,772	9,675	2,586	4,190	2,865	638	357	9,709	31,387	9,370
2006	50,764	620	2,335	6,048	6,705	6,704	7,791	9,777	2,697	4,171	2,860	695	360	9,670	31,631	9,463
2007	51,106	641	2,398	5,958	6,819	6,674	7,789	9,760	2,906	4,193	2,866	739	363	9,654	31,807	9,646
2008	51,465	667	2,462	5,901	6,870	6,707	7,715	9,813	3,041	4,276	2,878	779	356	9,666	31,956	9,842
2009	51,810	664	2,532	5,880	6,866	6,775	7,611	9,941	3,107	4,380	2,892	790	373	9,704	32,083	10,022
Males																
1981	22,795	306	1,147	3,430	3,790	3,377	2,856	3,938	1,154	1,902	777	89	30	5,280	14,717	2,798
1986	22,949	317	1,219	3,010	3,862	3,357	3,249	3,822	1,224	1,853	897	108	33	4,911	15,147	2,891
1991	23,291	336	1,307	3,011	3,439	3,721	3,311	3,957	1,159	1,900	970	141	39	4,938	15,302	3,050
1996	23,629	309	1,294	3,198	3,023	3,818	3,302	4,390	1,133	1,932	1,003	172	55	5,110	15,358	3,161
2001	24,166	285	1,212	3,257	3,053	3,580	3,681	4,624	1,176	1,928	1,103	194	73	5,075	15,793	3,298
2002	24,287	286	1,181	3,252	3,129	3,498	3,754	4,672	1,176	1,941	1,128	193	77	5,046	15,903	3,338
2003	24,415	296	1,163	3,231	3,213	3,423	3,802	4,713	1,197	1,958	1,154	186	80	5,026	16,011	3,378
2004	24,561	306	1,159	3,201	3,301	3,369	3,830	4,747	1,228	1,972	1,172	190	84	5,000	16,142	3,419
2005	24,756	310	1,171	3,158	3,368	3,363	3,866	4,790	1,267	1,983	1,179	210	88	4,977	16,317	3,461
2006	24,924	317	1,196	3,098	3,436	3,351	3,873	4,839	1,321	1,981	1,190	233	91	4,955	16,475	3,494
2007	25,119	329	1,229	3,048	3,509	3,348	3,871	4,820	1,421	1,995	1,205	251	93	4,943	16,631	3,544
2008	25,323	342	1,261	3,018	3,526	3,387	3,839	4,844	1,487	2,036	1,222	268	93	4,947	16,757	3,619
2009	25,515	340	1,296	3,008	3,518	3,436	3,787	4,907	1,519	2,089	1,239	273	102	4,966	16,845	3,703
Females																
1981	24,026	292	1,088	3,248	3,650	3,327	2,807	4,009	1,295	2,445	1,472	273	119	5,004	13,416	5,605
1986	24,239	301	1,161	2,859	3,761	3,325	3,229	3,850	1,335	2,346	1,604	326	140	4,672	13,815	5,752
1991	24,584	324	1,253	2,873	3,333	3,739	3,322	3,964	1,239	2,323	1,656	388	171	4,720	14,088	5,777
1996	24,890	293	1,229	3,056	2,961	3,849	3,336	4,432	1,177	2,286	1,628	430	214	4,876	14,281	5,734
2001	25,284	273	1,154	3,102	2,979	3,591	3,726	4,702	1,219	2,185	1,661	444	248	4,834	14,694	5,757
2002	25,362	273	1,131	3,094	3,028	3,502	3,796	4,766	1,222	2,187	1,675	433	254	4,807	14,783	5,772
2003	25,448	280	1,111	3,072	3,098	3,430	3,839	4,807	1,248	2,197	1,696	410	260	4,782	14,856	5,810
2004	25,549	291	1,103	3,042	3,158	3,376	3,882	4,843	1,281	2,204	1,703	403	264	4,752	14,943	5,855
2005	25,710	296	1,116	3,000	3,223	3,375	3,906	4,885	1,319	2,206	1,686	428	269	4,731	15,070	5,909
2006	25,840	303	1,139	2,950	3,269	3,353	3,918	4,939	1,376	2,191	1,670	461	270	4,716	15,156	5,968
2007	25,987	312	1,170	2,910	3,311	3,326	3,918	4,939	1,485	2,198	1,660	488	270	4,711	15,175	6,101
2008	26,141	326	1,202	2,883	3,344	3,320	3,876	4,969	1,554	2,239	1,656	511	263	4,719	15,199	6,223
2009	26,295	324	1,236	2,872	3,348	3,339	3,823	5,034	1,588	2,291	1,653	517	271	4,738	15,238	6,319
Wales																
Persons																
1981	2,813	36	136	407	434	383	333	485	158	272	139	21	8	626	1,663	525
1986	2,811	37	143	357	438	369	378	464	166	271	154	26	10	578	1,686	547
1991	2,873	38	153	363	393	402	389	486	154	284	164	32	13	589	1,711	573
1996	2,891	34	146	381	352	409	379	541	147	279	170	37	17	598	1,714	578
2001	2,910	32	136	382	356	365	409	572	154	264	183	39	20	587	1,739	584
2002	2,918	30	132	380	364	354	414	578	156	265	185	39	20	582	1,748	589
2003	2,929	31	129	377	374	345	417	582	161	268	187	38	21	577	1,757	595
2004	2,943	32	127	373	383	339	421	586	166	270	188	39	21	572	1,770	602
2005	2,950	32	126	367	388	336	421	588	171	271	186	42	21	566	1,777	608
2006	2,962	33	127	360	396	332	420	592	177	272	186	45	22	561	1,786	615
2007	2,976	34	130	353	405	329	417	589	188	276	185	48	22	556	1,793	627
2008	2,990	36	133	346	410	330	411	589	197	282	185	50	22	553	1,798	639
2009	2,999	35	136	341	412	334	400	592	200	289	185	51	23	550	1,799	650
Males																
1981	1,365	18	70	209	221	193	168	240	73	118	48	5	2	321	871	173
1986	1,362	19	73	184	221	186	190	231	79	119	54	7	2	297	885	181
1991	1,391	20	78	186	199	199	194	242	74	128	60	8	2	302	891	198
1996	1,401	17	74	195	179	203	187	269	72	128	64	10	3	306	890	206
2001	1,409	16	69	196	179	178	200	283	75	124	73	12	4	301	895	212
2002	1,413	16	68	195	183	172	202	285	77	125	74	12	5	299	899	215
2003	1,422	16	66	194	190	168	204	287	79	127	75	11	5	296	907	218
2004	1,431	16	66	191	195	166	205	288	82	128	76	12	5	294	916	221
2005	1,437	17	65	188	198	166	205	289	84	129	76	13	5	291	922	224
2006	1,442	17	65	185	202	164	204	291	87	130	77	15	5	288	927	227
2007	1,451	17	67	181	208	163	203	289	93	132	78	16	6	286	935	231
2008	1,459	18	68	178	210	165	200	288	97	135	78	17	6	284	939	236
2009	1,466	18	70	175	211	167	195	289	98	139	79	17	6	282	941	242
Females																
1981	1,448	18	66	199	213	190	165	246	85	154	91	16	6	305	791	352
1986	1,449	18	70	173	217	184	188	233	87	152	100	20	8	282	801	366
1991	1,482	19	75	177	194	203	195	244	80	156	104	24	10	288	820	375
1996	1,490	16	71	186	173	206	192	272	75	151	106	27	13	293	825	373
2001	1,502	15	66	186	177	187	209	289	78	141	110	27	15	286	844	372
2002	1,505	15	65	185	181	182	212	293	80	140	111	27	16	283	848	374
2003	1,507	15	63	183	184	176	214	295	82	141	112	27	16	280	850	377
2004	1,513	15	62	182	188	172	216	298	85	142	112	26	16	278	855	380
2005	1,513	16	61	179	190	170	216	299	87	142	110	28	16	275	855	383
2006	1,520	16	62	176	194	168	216	301	90	143	108	30	16	273	859	387
2007	1,525	16	63	172	197	166	215	300	96	144	107	32	16	271	858	395
2008	1,531	17	65	168	200	166	211	301	100	147	107	33	16	269	859	403
2009	1,534	17	66	166	201	167	206	303	102	150	106	34	17	268	858	408

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Table 1.4 continued Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1–4	5–14	15–24	25–34	35–44	45–59	60–64	65–74	75–84	85–89	90 and over	Under 16	16–64M/59F [1]	65M/60F [1] and over
Scotland																
Persons																
1981	5,180	69	249	780	875	724	603	880	260	460	232	35	14	1,188	3,110	882
1986	5,112	66	257	656	863	739	665	849	273	435	252	42	15	1,061	3,161	890
1991	5,083	66	258	634	746	795	696	853	265	441	259	51	19	1,021	3,151	912
1996	5,092	59	252	643	651	798	722	925	259	448	256	57	24	1,019	3,151	922
2001	5,064	52	224	629	633	696	782	979	262	447	272	59	29	970	3,150	944
2002	5,055	51	217	622	639	669	788	993	262	449	276	58	30	955	3,150	950
2003	5,057	52	212	614	648	648	793	1,008	265	452	281	55	31	943	3,156	958
2004	5,078	54	210	609	653	635	796	1,025	270	455	286	54	31	935	3,175	968
2005	5,095	55	211	600	659	629	794	1,042	273	457	286	59	32	929	3,191	975
2006	5,117	55	213	588	668	627	790	1,058	280	456	287	63	32	922	3,213	983
2007	5,144	57	218	576	676	629	781	1,060	301	457	290	67	32	917	3,227	1,001
2008	5,169	60	223	567	681	634	766	1,068	312	463	293	69	31	914	3,238	1,017
2009	5,194	60	229	561	685	645	746	1,079	320	470	295	72	32	912	3,249	1,033
Males																
1981	2,495	35	128	400	445	364	298	424	118	194	77	8	3	610	1,603	282
1986	2,462	34	131	336	438	371	331	410	127	184	86	10	3	543	1,636	283
1991	2,445	34	132	324	377	394	345	415	124	192	91	13	3	522	1,623	299
1996	2,447	30	128	328	327	392	355	454	122	198	93	15	5	521	1,616	310
2001	2,434	26	115	322	319	337	379	483	125	200	103	17	6	497	1,610	327
2002	2,432	26	111	319	324	325	382	490	125	202	106	17	7	489	1,612	331
2003	2,435	26	108	314	329	315	383	496	126	204	108	16	7	483	1,616	336
2004	2,446	28	107	312	332	310	384	503	129	207	111	16	7	479	1,627	341
2005	2,456	28	107	307	335	309	382	511	131	208	112	18	7	476	1,635	345
2006	2,469	28	109	301	340	310	380	517	135	208	113	20	8	472	1,649	349
2007	2,486	29	112	295	345	313	375	517	146	210	116	21	8	469	1,662	354
2008	2,500	30	115	290	348	317	368	520	152	213	118	22	8	468	1,672	361
2009	2,515	31	118	287	350	324	358	524	156	217	120	23	8	467	1,680	368
Females																
1981	2,685	33	121	380	430	359	305	456	142	265	155	27	11	579	1,506	600
1986	2,649	32	126	320	424	368	334	439	146	250	166	32	12	518	1,525	606
1991	2,639	32	126	309	369	402	351	437	141	249	168	38	16	499	1,528	612
1996	2,645	28	123	315	324	406	367	470	137	250	164	42	20	498	1,535	612
2001	2,630	26	109	307	314	359	403	496	137	246	169	43	23	473	1,540	617
2002	2,623	25	106	303	315	344	406	504	137	247	171	41	23	466	1,538	619
2003	2,623	25	104	300	318	332	410	512	139	248	173	39	24	460	1,540	622
2004	2,632	26	103	297	321	325	412	521	141	248	175	38	24	457	1,549	627
2005	2,639	26	103	293	324	320	411	531	142	249	174	41	25	454	1,556	630
2006	2,648	27	104	287	328	317	410	540	145	247	174	43	25	450	1,564	634
2007	2,659	28	106	281	332	316	406	542	155	247	174	45	24	448	1,564	646
2008	2,668	29	109	277	334	317	398	548	160	250	175	47	24	446	1,566	656
2009	2,679	29	112	274	335	321	388	556	164	253	175	49	24	445	1,569	664
Northern Ireland																
Persons																
1981	1,543	27	106	282	271	200	175	227	68	116	57	..	..	444	874	224
1986	1,574	28	107	261	277	217	190	227	71	115	64	16	..	423	917	234
1991	1,607	26	106	260	256	240	200	241	70	121	69	14	6	417	945	246
1996	1,662	24	99	266	244	257	220	266	70	123	72	15	7	415	993	253
2001	1,689	22	93	255	240	243	248	290	74	123	77	16	7	397	1,030	262
2002	1,697	22	91	253	243	238	251	296	75	125	79	16	7	393	1,037	266
2003	1,703	22	89	251	246	233	254	301	78	126	81	16	8	388	1,044	271
2004	1,710	22	87	248	250	229	256	305	81	127	82	16	8	383	1,052	275
2005	1,724	23	88	245	253	228	257	310	84	128	83	17	8	381	1,064	280
2006	1,742	23	89	242	258	229	259	316	87	130	83	18	8	380	1,077	284
2007	1,759	24	91	239	260	231	259	321	90	132	84	19	8	380	1,089	290
2008	1,775	26	94	237	260	235	257	327	91	136	85	20	9	381	1,098	296
2009	1,789	26	97	235	258	239	255	333	92	140	86	20	9	382	1,105	302
Males																
1981	757	14	54	145	140	102	87	109	32	50	21	..	..	228	454	75
1986	768	14	55	134	142	109	95	110	33	50	23	4	..	217	474	77
1991	783	13	54	133	131	119	100	118	32	53	26	4	1	213	487	83
1996	810	12	51	136	124	128	109	131	33	54	27	4	1	212	511	87
2001	824	11	48	131	122	120	122	144	35	56	30	5	2	204	529	92
2002	829	11	47	130	124	117	123	147	36	56	31	5	2	202	534	94
2003	833	11	46	129	126	115	124	149	38	57	31	5	2	199	538	95
2004	836	11	45	127	128	113	125	151	39	58	32	5	2	197	542	97
2005	844	12	45	126	130	113	126	153	41	59	32	5	2	196	550	99
2006	853	12	46	124	132	113	127	156	42	60	33	6	2	195	558	101
2007	862	13	47	123	134	114	127	158	44	61	33	6	2	195	564	103
2008	871	13	48	121	133	117	127	161	44	63	34	6	2	196	569	106
2009	879	13	50	121	132	120	125	164	45	66	35	7	2	196	573	109
Females																
1981	786	13	52	137	130	98	88	118	37	66	37	..	..	216	420	150
1986	805	13	52	127	135	107	96	118	38	65	41	12	..	206	442	157
1991	824	13	52	127	125	121	100	123	38	67	44	10	4	203	458	163
1996	851	11	49	130	120	129	110	135	37	69	45	11	6	203	482	167
2001	865	10	45	124	119	123	126	146	38	68	47	11	6	193	501	170
2002	868	11	44	124	119	120	128	149	39	68	48	11	6	191	504	173
2003	870	10	43	122	120	118	129	152	40	68	49	11	6	189	506	175
2004	874	11	42	121	122	116	130	154	42	69	50	11	6	187	509	179
2005	880	11	43	119	124	115	131	157	43	69	50	11	6	186	514	181
2006	888	11	43	118	126	115	132	160	45	69	51	12	6	185	520	183
2007	897	12	44	116	127	117	132	163	46	70	51	13	6	185	526	187
2008	904	12	46	115	127	118	131	165	47	72	51	13	6	186	529	190
2009	910	12	47	114	126	120	129	169	47	74	51	13	6	186	532	193

1 Between 2010 and 2020, state pension age will change from 65 years for men and 60 years for women to 65 years for both sexes.

Table 1.5 Population: age, sex and legal marital status

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
Aged											
16 and over											
1971	36,818	4,173	12,522	187	682	17,563	3,583	12,566	296	2,810	19,255
1976	37,486	4,369	12,511	376	686	17,941	3,597	12,538	533	2,877	19,545
1981	38,724	5,013	12,238	611	698	18,559	4,114	12,284	828	2,939	20,165
1986	39,837	5,625	11,867	917	695	19,103	4,617	12,000	1,165	2,953	20,734
1991	40,501	5,891	11,636	1,187	727	19,441	4,817	11,833	1,459	2,951	21,060
1996	40,827	6,225	11,310	1,346	733	19,614	5,168	11,433	1,730	2,881	21,212
1999	41,325	6,582	11,143	1,433	732	19,890	5,526	11,235	1,875	2,800	21,435
2000	41,569	6,721	11,113	1,456	731	20,022	5,650	11,199	1,927	2,772	21,547
2001	41,865	6,894	11,090	1,482	733	20,198	5,798	11,150	1,975	2,745	21,667
2002	42,135	7,062	11,043	1,524	730	20,358	5,944	11,094	2,031	2,709	21,777
2003	42,409	7,226	10,995	1,571	726	20,517	6,102	11,033	2,087	2,669	21,892
2004	42,731	7,419	10,941	1,617	722	20,700	6,279	10,980	2,144	2,628	22,031
2005	43,141	7,623	10,923	1,662	719	20,927	6,486	10,943	2,198	2,588	22,214
2006	43,494	7,833	10,881	1,696	716	21,126	6,683	10,893	2,244	2,548	22,367
2007	43,860	8,049	10,851	1,724	715	21,338	6,871	10,851	2,289	2,511	22,521
2008	44,217	8,238	10,849	1,746	713	21,546	7,057	10,812	2,326	2,477	22,671
16–19											
1971	2,666	1,327	34	0	0	1,362	1,163	142	0	0	1,305
1976	2,901	1,454	28	0	0	1,482	1,289	129	0	0	1,419
1981	3,310	1,675	20	0	0	1,694	1,523	93	0	0	1,616
1986	3,131	1,587	10	0	0	1,596	1,484	49	1	0	1,535
1991	2,665	1,358	8	0	0	1,366	1,267	32	0	0	1,300
1996	2,402	1,209	6	0	0	1,216	1,164	21	0	0	1,186
1999	2,543	1,280	6	1	1	1,288	1,234	20	1	1	1,255
2000	2,523	1,276	6	1	1	1,283	1,221	18	1	1	1,240
2001	2,567	1,304	5	1	1	1,312	1,237	16	1	1	1,255
2002	2,630	1,351	5	1	1	1,357	1,258	13	1	1	1,273
2003	2,703	1,392	4	1	1	1,397	1,293	12	0	1	1,306
2004	2,771	1,424	3	0	0	1,428	1,331	11	0	0	1,343
2005	2,801	1,434	2	0	0	1,436	1,355	10	0	0	1,365
2006	2,829	1,457	2	0	0	1,459	1,363	7	0	0	1,370
2007	2,861	1,473	2	0	0	1,475	1,379	7	0	0	1,386
2008	2,859	1,467	2	0	0	1,469	1,383	7	0	0	1,390
20–24											
1971	3,773	1,211	689	3	0	1,904	745	1,113	9	2	1,869
1976	3,395	1,167	557	4	0	1,728	725	925	16	2	1,667
1981	3,744	1,420	466	10	1	1,896	1,007	811	27	2	1,847
1986	4,171	1,768	317	14	0	2,099	1,383	657	32	1	2,072
1991	3,911	1,717	242	12	0	1,971	1,421	490	29	1	1,941
1996	3,291	1,538	117	3	0	1,658	1,361	260	11	1	1,633
1999	3,047	1,449	78	2	0	1,530	1,320	188	8	1	1,517
2000	3,088	1,470	74	3	0	1,548	1,352	180	8	1	1,540
2001	3,157	1,501	74	3	1	1,579	1,390	178	8	1	1,578
2002	3,212	1,530	73	3	1	1,606	1,427	170	8	1	1,606
2003	3,281	1,568	74	3	1	1,645	1,459	166	8	1	1,636
2004	3,376	1,632	75	3	1	1,712	1,491	163	8	2	1,664
2005	3,477	1,693	73	3	1	1,771	1,539	157	8	2	1,706
2006	3,558	1,741	67	3	1	1,812	1,591	146	7	1	1,746
2007	3,661	1,813	64	3	1	1,881	1,637	136	6	1	1,780
2008	3,741	1,855	61	2	1	1,919	1,689	126	6	1	1,822
25–29											
1971	3,267	431	1,206	16	1	1,654	215	1,367	29	4	1,614
1976	3,758	533	1,326	39	2	1,900	267	1,522	65	5	1,859
1981	3,372	588	1,057	54	1	1,700	331	1,247	89	4	1,671
1986	3,713	835	949	79	1	1,863	527	1,207	113	4	1,850
1991	4,154	1,132	856	82	1	2,071	800	1,158	123	2	2,083
1996	3,950	1,273	650	46	1	1,970	977	906	93	3	1,980
1999	3,687	1,304	497	34	1	1,836	1,051	725	72	3	1,851
2000	3,605	1,305	459	31	1	1,796	1,065	677	65	3	1,810
2001	3,487	1,293	420	28	1	1,742	1,059	625	58	3	1,745
2002	3,365	1,277	384	26	1	1,688	1,049	574	52	3	1,676
2003	3,284	1,265	356	24	1	1,647	1,051	536	48	2	1,638
2004	3,280	1,278	339	23	1	1,641	1,078	513	46	2	1,639
2005	3,354	1,320	331	23	1	1,675	1,128	504	45	2	1,679
2006	3,434	1,371	324	22	1	1,718	1,178	490	45	2	1,716
2007	3,526	1,422	326	22	1	1,770	1,223	486	44	2	1,756
2008	3,617	1,486	329	21	1	1,837	1,259	477	42	2	1,780

Note: Figures may not sum due to rounding.

Source: Office for National Statistics.

Table 1.5 continued Population: age, sex and legal marital status

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
30–34											
1971	2,897	206	1,244	23	3	1,475	111	1,269	34	8	1,422
1976	3,220	236	1,338	55	3	1,632	118	1,388	75	8	1,588
1981	3,715	318	1,451	97	3	1,869	165	1,544	129	9	1,846
1986	3,338	355	1,197	124	2	1,679	206	1,293	154	6	1,660
1991	3,708	520	1,172	155	2	1,849	335	1,330	189	5	1,859
1996	4,126	776	1,135	138	2	2,050	551	1,316	201	7	2,076
1999	4,113	877	1,043	121	3	2,044	651	1,223	188	7	2,069
2000	4,076	904	1,007	114	2	2,027	679	1,182	181	7	2,049
2001	4,050	934	971	108	2	2,016	711	1,142	174	7	2,033
2002	3,992	951	927	103	2	1,984	739	1,097	166	6	2,009
2003	3,919	964	881	99	2	1,947	760	1,049	158	6	1,972
2004	3,810	967	834	94	2	1,897	768	993	147	5	1,913
2005	3,724	972	793	88	2	1,856	778	948	137	5	1,868
2006	3,606	972	744	81	2	1,799	782	896	124	5	1,808
2007	3,473	962	701	74	1	1,738	777	840	114	4	1,735
2008	3,414	965	678	68	1	1,713	787	804	105	4	1,701
35–44											
1971	5,736	317	2,513	48	13	2,891	201	2,529	66	48	2,845
1976	5,608	286	2,442	104	12	2,843	167	2,427	129	42	2,765
1981	5,996	316	2,519	178	12	3,024	170	2,540	222	41	2,972
1986	6,856	396	2,738	293	12	3,438	213	2,815	350	39	3,418
1991	7,022	477	2,632	384	11	3,504	280	2,760	444	34	3,517
1996	7,017	653	2,426	398	12	3,489	427	2,568	497	36	3,528
1999	7,475	832	2,459	408	13	3,711	577	2,617	533	37	3,763
2000	7,661	899	2,481	410	12	3,802	635	2,640	547	37	3,859
2001	7,816	963	2,494	411	12	3,881	692	2,649	558	36	3,935
2002	7,964	1,027	2,499	420	12	3,957	749	2,653	570	35	4,007
2003	8,058	1,080	2,488	427	12	4,007	801	2,638	579	33	4,051
2004	8,133	1,126	2,466	433	11	4,036	853	2,623	588	32	4,097
2005	8,194	1,173	2,452	436	11	4,073	903	2,597	590	31	4,121
2006	8,213	1,219	2,419	431	11	4,080	955	2,564	585	30	4,134
2007	8,209	1,259	2,385	422	10	4,076	1,004	2,525	574	29	4,132
2008	8,128	1,289	2,333	407	10	4,039	1,044	2,463	555	27	4,090
45–64											
1971	11,887	502	4,995	81	173	5,751	569	4,709	125	733	6,136
1976	11,484	496	4,787	141	160	5,583	462	4,568	188	683	5,901
1981	11,040	480	4,560	218	147	5,405	386	4,358	271	620	5,635
1986	10,860	461	4,422	331	141	5,355	327	4,220	388	570	5,505
1991	10,960	456	4,394	456	127	5,433	292	4,211	521	503	5,527
1996	11,820	528	4,587	628	121	5,864	318	4,466	732	440	5,956
1999	12,198	589	4,627	706	121	6,043	355	4,541	844	415	6,155
2000	12,328	615	4,638	727	121	6,101	372	4,564	881	410	6,227
2001	12,447	644	4,647	747	121	6,159	391	4,578	918	401	6,289
2002	12,573	670	4,647	775	119	6,211	413	4,599	959	391	6,362
2003	12,710	700	4,653	807	118	6,278	437	4,616	999	380	6,432
2004	12,852	734	4,657	840	116	6,347	464	4,630	1,041	370	6,505
2005	13,021	771	4,672	873	115	6,431	496	4,650	1,084	361	6,590
2006	13,243	813	4,703	906	115	6,537	534	4,688	1,130	355	6,706
2007	13,439	857	4,716	935	114	6,621	576	4,719	1,175	347	6,818
2008	13,633	906	4,734	962	113	6,715	624	4,739	1,216	339	6,918
65 and over											
1971	6,592	179	1,840	17	492	2,527	580	1,437	32	2,016	4,065
1976	7,119	197	2,033	33	510	2,773	569	1,579	60	2,138	4,347
1981	7,548	216	2,167	54	534	2,971	533	1,692	90	2,263	4,578
1986	7,768	223	2,234	76	539	3,072	477	1,759	127	2,333	4,696
1991	8,080	231	2,332	99	586	3,248	422	1,853	152	2,405	4,832
1996	8,221	247	2,390	134	597	3,367	369	1,897	196	2,393	4,854
1999	8,262	251	2,431	161	594	3,437	338	1,922	230	2,336	4,825
2000	8,287	252	2,449	171	593	3,466	327	1,938	243	2,313	4,821
2001	8,342	254	2,478	183	595	3,510	318	1,960	259	2,295	4,832
2002	8,398	255	2,509	196	594	3,554	308	1,987	276	2,272	4,844
2003	8,454	257	2,539	209	592	3,597	301	2,017	295	2,245	4,857
2004	8,510	258	2,568	223	591	3,640	293	2,046	314	2,216	4,870
2005	8,571	259	2,599	238	589	3,685	286	2,078	334	2,187	4,885
2006	8,611	260	2,622	252	587	3,722	279	2,102	353	2,155	4,889
2007	8,690	263	2,658	268	587	3,775	274	2,138	375	2,128	4,915
2008	8,825	268	2,713	285	587	3,854	271	2,195	401	2,103	4,971

See note on first page of table

Table 2.1 Vital statistics summary

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
United Kingdom																		
1976	675.5	12.0	61.1	90	406.0	..	:	:	136.0	..	680.8	12.1	9.79	14.5	6.68	9.9	12.25	18.0
1981	730.7	13.0	91.3	125	397.8	49.4	:	:	157.0	11.3	658.0	11.7	8.16	11.2	4.93	6.7	8.79	12.0
1986	754.8	13.3	154.3	204	393.9	..	:	:	168.3	..	660.7	11.7	7.18	9.5	4.00	5.3	7.31	9.6
1991	792.3	13.8	236.1	298	349.7	..	:	:	173.5	..	646.2	11.2	5.82	7.4	3.46	4.4	6.45	8.1
1996	733.2	12.6	260.4	355	317.5	..	:	:	171.7	..	636.0	10.9	4.50	6.1	3.00	4.1	6.41	8.7
2001	669.1	11.3	268.0	401	286.1	..	:	:	156.8	..	602.3	10.2	3.69	5.5	2.45	3.7	5.40	8.0
2002	668.8	11.3	271.7	406	293.0	..	:	:	160.7	..	608.0	10.3	3.54	5.3	2.37	3.5	5.59	8.3
2003	695.6	11.7	288.5	415	308.6	..	:	:	166.7	..	612.1	10.3	3.69	5.3	2.51	3.6	5.95	8.5
2004	716.0	12.0	302.6	423	313.6	..	:	:	167.8	..	584.8	9.8	3.66	5.1	2.49	3.5	6.03	8.4
2005	722.5	12.0	310.2	429	286.8	..	1.95[10]	..	155.0	..	583.0	9.7	3.67	5.1	2.52	3.5	5.78	8.0
2006	748.6	12.4	326.8	437	277.6	..	16.11	..	148.2	..	572.2	9.4	3.74	5.0	2.61	3.5	5.94	7.9
2007	772.2	12.7	343.2	444	274.0	..	8.73	..	144.3	..	574.7	9.4	3.74	4.8	2.55	3.3	6.00	7.7
2008	794.4	12.9	360.8	454	270.0[P]	..	7.17	..	136.0	..	579.7	9.4	3.75	4.7	2.56	3.2	6.02	7.5
2009	790.2[P]	12.8[P]	365.8[P]	463[P]	..	..	6.28[P]	..	..	..	559.6[P]	9.1[P]	3.68[P]	4.6[P]	2.51[P]	3.2[P]	6.04[P]	7.6[P]
2007 March	184.4	12.3	81.9	444	31.2	..	1.69	..	38.9	..	159.3	10.6	0.91	4.9	0.64	3.4	1.47	7.9
June	189.8	12.5	82.6	435	76.6	..	2.37	..	37.2	..	138.0	9.1	0.99	5.2	0.66	3.5	1.53	8.0
Sept	202.8	13.2	90.5	446	117.7	..	2.96	..	36.7	..	129.9	8.4	0.94	4.6	0.63	3.1	1.50	7.4
Dec	195.3	12.7	88.1	451	48.4	..	1.71	..	31.4	..	147.5	9.6	0.90	4.6	0.62	3.2	1.50	7.6
2008 March	195.4	12.8	88.8	455	32.0[P]	..	1.25	..	35.5	..	155.6	10.2	0.95	4.9	0.66	3.4	1.53	7.8
June	198.2	12.9	89.1	449	73.7[P]	..	1.93	..	34.4	..	140.2	9.2	0.88	4.4	0.59	3.0	1.48	7.4
Sept	204.4	13.4	93.3	456	115.0[P]	..	2.46	..	33.9	..	130.3	8.4	0.97	4.7	0.67	3.3	1.47	7.2
Dec	196.4	12.7	89.6	456	50.1[P]	..	1.53	..	32.3	..	153.5	9.9	0.95	4.8	0.64	3.2	1.54	7.8
2009 March	189.8[P]	12.5[P]	87.8[P]	463[P]	30.6[P]	..	0.98[P]	..	31.5[P]	..	157.9[P]	10.4[P]	0.93[P]	4.9[P]	0.62[P]	3.2[P]	1.49[P]	7.8[P]
June	196.3[P]	12.7[P]	89.2[P]	455[P]	73.7[P]	..	1.66[P]	..	30.5[P]	..	131.9[P]	8.6[P]	0.94[P]	4.8[P]	0.63[P]	3.2[P]	1.51[P]	7.7[P]
Sept	202.8[P]	13.0[P]	94.6[P]	466[P]	..	..	2.28[P]	..	31.9[P]	..	126.4[P]	8.1[P]	0.89[P]	4.4[P]	0.64[P]	3.1[P]	1.54[P]	7.5[P]
Dec	201.3[P]	12.9[P]	94.2[P]	468[P]	..	..	1.37[P]	..	..	..	143.5[P]	9.2[P]	0.91[P]	4.5[P]	0.63[P]	3.1[P]	1.50[P]	7.4[P]
2010 March	195.7[P]	12.8[P]	92.0[P]	470[P]	..	..	0.96[P]	..	..	..	153.3[P]	10.0[P]	0.91[P]	4.6[P]	0.63[P]	3.2[P]	1.48[P]	7.5[P]
England and Wales																		
1976	584.3	11.8	53.8	92	358.6	57.7	:	:	126.7	10.1	598.5	12.1	8.34	14.3	5.66	9.7	10.45	17.7
1981	634.5	12.8	81.0	128	352.0	49.6	:	:	145.7	11.9	577.9	11.6	7.02	11.1	4.23	6.7	7.56	11.8
1986	661.0	13.2	141.3	214	347.9	43.6	:	:	153.9	12.9	581.2	11.6	6.31	9.6	3.49	5.3	6.37	9.6
1991	699.2	13.8	211.3	302	306.8	36.0	:	:	158.7	13.5	570.0	11.2	5.16	7.4	3.05	4.4	5.65	8.0
1996	649.5	12.6	232.7	358	279.0	30.9	:	:	157.1	13.8	560.1	10.9	3.99	6.1	2.68	4.1	5.62	8.6
2001	594.6	11.4	238.1	400	249.2	25.4	:	:	143.8	12.9	530.4	10.1	3.27	5.5	2.15	3.6	4.76	8.0
2002	596.1	11.3	242.0	406	255.6	25.6	:	:	147.7	13.3	535.4	10.2	3.17	5.3	2.14	3.6	5.01	8.3
2003	621.5	11.8	257.2	414	270.1	26.5	:	:	153.2	13.9	539.2	10.2	3.31	5.3	2.25	3.6	5.35	8.6
2004	639.7	12.1	269.7	422	273.1	26.2	:	:	153.0	14.0	514.3	9.7	3.27	5.1	2.24	3.5	5.41	8.4
2005	645.8	12.1	276.5	428	247.8	23.3	1.86[10]	5.8[10]	141.1	12.9	513.0	9.6	3.25	5.0	2.22	3.4	5.17	8.0
2006	669.6	12.5	291.4	435	239.5	22.0	14.94	1.4	132.2	12.1	502.6	9.4	3.37	5.0	2.35	3.5	5.36	8.0
2007	690.0	12.8	305.6	443	235.4	21.2	7.93	0.7	128.2	11.8	504.1	9.3	3.35	4.8	2.28	3.3	5.37	7.7
2008	708.7	13.0	320.8	453	233.0[P]	20.7[P]	6.56	0.6	121.8	11.2	509.1	9.3	3.37	4.8	2.30	3.2	5.38	7.6
2009	706.2	12.9	326.2	462	..	..	5.69	0.5[P]	..	..	491.3	9.0	3.31[P]	4.7[P]	2.25[P]	3.2[P]	5.40[P]	7.6[P]
2007 March	164.0	12.3	72.5	442	27.0	9.9	1.55	0.6	34.6	12.9	139.3	10.4	0.80	4.9	0.56	3.4	1.31	7.9
June	169.5	12.6	73.5	434	66.0	23.9	2.16	0.8	33.0	12.2	121.0	9.0	0.88	5.2	0.60	3.5	1.36	8.0
Sept	181.4	13.3	80.8	445	101.3	36.3	2.68	1.0	33.0	12.0	114.0	8.4	0.84	4.6	0.57	3.1	1.35	7.4
Dec	175.0	12.8	78.7	450	41.1	14.7	1.54	0.6	27.6	10.1	129.7	9.5	0.83	4.7	0.56	3.2	1.35	7.7

Notes: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005. Death figures for 2006, 2007, 2008 and provisional death figures for 2009 and 2010 relate to registrations.

Infant, neonatal and perinatal mortality rates for Northern Ireland take account of the non-resident livebirths.

Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales. These events are, however, included in the totals for England and Wales combined, and for the United Kingdom.

All infant, neonatal and perinatal mortality data has been revised to registration data.

From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.

Figures for divorces back to 2003 for England and Wales differ slightly to those previously published due to duplicate records being identified and removed from the datasets.

The birth and death rates for 2009 are based on mid-2009 population estimates.

The birth and death rates for 2010 are based on 2008-based population projections for 2010.

The birth rates for all live births and the death rates for 2002–2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.

Marriage, civil partnership and divorce rates for 2009 and 2010 are based on 2008 marital status estimates.

The rates for Scotland have taken into account the revised marital status estimates for Scotland from 2002 to 2007.

Marital status estimates/rates are not available for Northern Ireland/UK.

1 Per 1,000 population of all ages.
2 Per 1,000 live births.
3 Persons marrying per 1,000 unmarried population aged 16 and over.
4 Persons forming a civil partnership per 1,000 unmarried population aged 16 and over.
5 Persons divorcing per 1,000 married population.
6 Deaths under 1 year.
7 Deaths under 4 weeks.
8 Stillbirths and deaths under 1 week.
9 Per 1,000 live births and stillbirths.
10 The Civil Partnership Act 2004 came into force on 5 December 2005 in the UK – see Notes to tables.
P Provisional.

Source: Office for National Statistics.

Table 2.1 continued **Vital statistics summary**

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[3]	Number	Rate[4]	Number	Rate[5]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
2008 March	173.8	12.8	78.6	452	27.5[P]	9.8[P]	1.13	0.4	31.9	11.9	136.4	10.1	0.86	4.9	0.60	3.4	1.38	7.9
June	177.0	13.1	79.4	449	63.6[P]	22.7[P]	1.79	0.6	30.6	11.4	123.1	9.1	0.79	4.5	0.53	3.0	1.33	7.4
Sept	182.4	13.3	83.1	455	99.1[P]	34.9[P]	2.24	0.8	30.4	11.2	114.3	8.4	0.87	4.8	0.60	3.3	1.32	7.2
Dec	175.5	12.8	79.8	455	42.9[P]	15.1[P]	1.39	0.5	28.8	10.6	135.3	9.9	0.85	4.8	0.57	3.3	1.36	7.7
2009 March	169.0	12.5	77.8	461	26.5[P]	9.5[P]	0.91	0.3[P]	28.4[P]	10.6[P]	138.9	10.3	0.83[P]	4.9[P]	0.54[P]	3.2[P]	1.33[P]	7.8[P]
June	175.1	12.8	79.4	454	63.4[P]	22.6[P]	1.49	0.5[P]	27.2[P]	10.1[P]	115.7	8.5	0.85[P]	4.9[P]	0.56[P]	3.2[P]	1.34[P]	7.6[P]
Sept	181.3	13.1	84.4	466	..	..	2.06	0.7[P]	28.8[P]	10.5[P]	110.7	8.0	0.80[P]	4.4[P]	0.57[P]	3.1[P]	1.38[P]	7.6[P]
Dec	180.9	13.1	84.5	467	..	..	1.23	0.4[P]	..	..	126.1	9.1	0.84[P]	4.6[P]	0.58[P]	3.2[P]	1.35[P]	7.4[P]
2010 March	174.6[P]	12.8[P]	81.9[P]	469[P]	..	..	0.88[P]	0.3[P]	..	..	134.5[P]	9.9[P]	0.80[P]	4.6[P]	0.56[P]	3.2[P]	1.31[P]	7.5[P]
England																		
1976	550.4	11.8	50.8	92	339.0	..	:	:	..	..	560.3	12.0	7.83	14.2	5.32	9.7	9.81	17.6
1981	598.2	12.8	76.9	129	332.2	..	:	:	..	..	541.0	11.6	6.50	10.9	3.93	6.6	7.04	11.7
1986	623.6	13.2	133.5	214	328.4	..	:	:	146.0	..	544.5	11.6	5.92	9.5	3.27	5.2	5.98	9.5
1991	660.8	13.8	198.9	301	290.1	..	:	:	150.1	..	534.0	11.2	4.86	7.3	2.87	4.3	5.33	8.0
1996	614.2	12.7	218.2	355	264.2	..	:	:	148.7	..	524.0	10.8	3.74	6.1	2.53	4.1	5.36	8.7
2001	563.7	11.4	223.3	396	236.2	..	:	:	136.4	..	496.1	10.0	3.06	5.4	2.03	3.6	4.51	8.0
2002	565.7	11.4	227.0	401	242.1	..	:	:	140.2	..	500.8	10.1	3.00	5.3	2.03	3.6	4.76	8.4
2003	589.9	11.8	241.4	409	255.6	..	:	:	145.5	..	504.1	10.1	3.15	5.3	2.14	3.6	5.08	8.6
2004	607.2	12.1	253.1	417	258.2	..	:	:	145.1	..	480.7	9.6	3.07	5.1	2.12	3.5	5.12	8.4
2005	613.0	12.1	259.4	423	233.8	..	1.79[10]	..	134.2	..	479.7	9.5	3.08	5.0	2.11	3.4	4.91	8.0
2006	635.7	12.5	273.5	430	226.0	..	14.38	..	125.3	..	470.3	9.3	3.19	5.0	2.24	3.5	5.11	8.0
2007	655.4	12.8	287.0	438	222.5	..	7.64	..	121.6	..	470.7	9.2	3.13	4.8	2.15	3.3	5.10	7.7
2008	672.8	13.1	300.9	447	220.1[P]	..	6.28	..	115.5	..	475.8	9.2	3.18	4.7	2.18	3.2	5.11	7.6
2009	671.1	13.0	306.3	457	..	..	5.44	..	..	..	459.2	8.9	3.11[P]	4.6[P]	2.13[P]	3.2[P]	5.11[P]	7.6[P]
2007 March	155.9	12.4	68.1	437	25.6	..	1.49	..	32.7	..	130.3	10.3	0.74	4.7	0.52	3.3	1.23	7.8
June	161.0	12.6	69.0	429	62.4	..	2.06	..	31.3	..	112.9	8.9	0.84	5.2	0.57	3.5	1.30	8.0
Sept	172.2	13.4	75.9	441	95.6	..	2.60	..	31.3	..	106.4	8.3	0.79	4.6	0.54	3.1	1.29	7.5
Dec	166.3	12.9	74.0	445	38.9	..	1.48	..	26.2	..	121.2	9.4	0.76	4.6	0.53	3.2	1.28	7.6
2008 March	165.0	12.9	73.7	447	25.9[P]	..	1.08	..	30.3	..	127.6	10.0	0.82	4.9	0.57	3.4	1.30	7.9
June	167.9	13.1	74.4	443	60.0[P]	..	1.72	..	29.1	..	115.1	9.0	0.74	4.4	0.50	3.0	1.26	7.5
Sept	173.2	13.4	77.9	450	93.5[P]	..	2.14	..	28.8	..	106.7	8.2	0.82	4.7	0.57	3.3	1.25	7.2
Dec	166.7	12.9	74.9	449	40.6[P]	..	1.33	..	27.3	..	126.4	9.8	0.81	4.8	0.54	3.3	1.30	7.7
2009 March	160.5	12.6	73.1	455	25.2[P]	..	0.88	..	26.8[P]	..	129.7	10.2	0.79[P]	4.9[P]	0.52[P]	3.3[P]	1.27[P]	7.9[P]
June	166.4	12.9	74.6	448	60.1[P]	..	1.41	..	25.6[P]	..	108.2	8.4	0.80[P]	4.8[P]	0.53[P]	3.2[P]	1.27[P]	7.6[P]
Sept	172.2	13.2	79.3	460	..	..	1.97	..	27.0[P]	..	103.5	7.9	0.74[P]	4.3[P]	0.53[P]	3.1[P]	1.30[P]	7.5[P]
Dec	171.9	13.2	79.4	462	..	..	1.18	..	..	..	117.8	9.0	0.78[P]	4.5[P]	0.54[P]	3.1[P]	1.27[P]	7.3[P]
2010 March	165.8[P]	12.9[P]	76.8[P]	463[P]	..	..	0.84[P]	..	..	..	125.8[P]	9.8[P]	0.76[P]	4.6[P]	0.53[P]	3.2[P]	1.24[P]	7.4[P]
Wales																		
1976	33.4	11.9	2.9	86	19.5	..	:	:	..	..	36.3	13.0	0.46	13.7	0.32	9.6	0.64	19.0
1981	35.8	12.7	4.0	112	19.8	..	:	:	..	..	35.0	12.4	0.45	12.6	0.29	8.1	0.51	14.1
1986	37.0	13.2	7.8	211	19.5	..	:	:	7.8	..	34.7	12.3	0.35	9.5	0.21	5.6	0.38	10.3
1991	38.1	13.3	12.3	323	16.6	..	:	:	8.4	..	34.1	11.9	0.25	6.6	0.16	4.1	0.30	7.9
1996	34.9	12.1	14.4	412	14.8	..	:	:	8.4	..	34.6	12.0	0.20	5.6	0.13	3.6	0.26	7.5
2001	30.6	10.5	14.8	483	13.0	..	:	:	7.4	..	33.0	11.3	0.17	5.5	0.11	3.4	0.23	7.5
2002	30.2	10.4	15.0	497	13.5	..	:	:	7.6	..	33.3	11.4	0.14	4.7	0.10	3.1	0.24	7.7
2003	31.4	10.7	15.8	503	14.5	..	:	:	7.7	..	33.8	11.5	0.13	4.1	0.09	3.0	0.24	7.5
2004	32.3	11.0	16.6	513	14.9	..	:	:	7.9	..	32.3	11.0	0.17	5.1	0.11	3.3	0.26	8.1
2005	32.6	11.0	17.1	524	14.0	..	0.07[10]	..	7.2	..	32.2	10.9	0.14	4.3	0.09	2.9	0.24	7.4
2006	33.6	11.4	17.8	530	13.5	..	0.56	..	7.0	..	31.1	10.5	0.14	4.1	0.09	2.8	0.23	6.9
2007	34.4	11.6	18.5	538	12.9	..	0.29	..	6.7	..	32.1	10.8	0.18	5.3	0.12	3.4	0.25	7.3
2008	35.7	11.9	19.8	556	12.9[P]	..	0.28	..	6.3	..	32.1	10.7	0.15	4.1	0.11	3.0	0.24	6.7
2009	34.9	11.6	19.8	566	..	..	0.24	..	..	..	31.0	10.3	0.17[P]	4.8[P]	0.11[P]	3.1[P]	0.26[P]	7.4[P]
2007 March	8.1	11.0	4.3	536	1.3	..	0.06	..	1.8	..	8.8	11.9	0.05	6.3	0.03	3.7	0.07	9.0
June	8.5	11.5	4.5	530	3.6	..	0.10	..	1.8	..	7.9	10.6	0.04	4.5	0.02	2.8	0.06	6.8
Sept	9.1	12.2	4.9	541	5.7	..	0.08	..	1.7	..	7.3	9.7	0.04	4.4	0.03	2.8	0.05	5.7
Dec	8.7	11.6	4.8	547	2.2	..	0.06	..	1.4	..	8.3	11.0	0.05	6.1	0.04	4.1	0.07	7.9
2008 March	8.7	11.8	4.8	552	1.6[P]	..	0.06	..	1.6	..	8.6	11.5	0.04	4.1	0.03	3.0	0.06	7.3
June	9.0	12.1	5.0	555	3.5[P]	..	0.07	..	1.5	..	7.7	10.4	0.04	4.2	0.03	3.2	0.06	6.4
Sept	9.2	12.2	5.1	556	5.5[P]	..	0.10	..	1.6	..	7.3	9.7	0.04	3.8	0.03	2.9	0.06	6.3
Dec	8.8	11.6	4.9	561	2.3[P]	..	0.06	..	1.5	..	8.5	11.3	0.04	4.3	0.03	3.0	0.06	6.9
2009 March	8.4	11.4	4.7	559	1.3[P]	..	0.03	..	1.6[P]	..	8.9	12.0	0.03[P]	3.1[P]	0.02[P]	2.0[P]	0.05[P]	5.3[P]
June	8.6	11.5	4.8	561	3.4[P]	..	0.08	..	1.6[P]	..	7.3	9.7	0.04[P]	4.5[P]	0.03[P]	3.0[P]	0.07[P]	7.5[P]
Sept	8.9	11.8	5.1	571	..	..	0.09	..	1.8[P]	..	6.9	9.2	0.05[P]	5.5[P]	0.03[P]	3.6[P]	0.08[P]	8.6[P]
Dec	8.9	11.8	5.1	572	..	..	0.05	..	..	..	7.9	10.5	0.05[P]	5.8[P]	0.03[P]	3.6[P]	0.07[P]	8.1[P]
2010 March	8.8[P]	11.8[P]	5.1[P]	579[P]	..	..	0.04[P]	..	..	..	8.5[P]	11.5[P]	0.04[P]	4.6[P]	0.03[P]	3.2[P]	0.07[P]	7.6[P]

See notes on first page of table

Table 2.1 continued **Vital statistics summary**

Constituent countries of the United Kingdom

Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Civil Partnerships		Divorces		Deaths		Infant mortality[6]		Neonatal mortality[7]		Perinatal mortality[8]	
	Number	Rate[1]	Number	Rate[2]	Number	Rate[1]	Number	Rate[1]	Number	Rate[1]	Number	Rate[1]	Number	Rate[2]	Number	Rate[2]	Number	Rate[9]
Scotland																		
1976	64.9	12.5	6.0	93	37.5	53.8	:	:	8.1	6.5	65.3	12.5	0.96	14.8	0.67	10.3	1.20	18.3
1981	69.1	13.4	8.5	122	36.2	47.5	:	:	9.9	8.0	63.8	12.3	0.78	11.3	0.47	6.9	0.81	11.6
1986	65.8	12.9	13.6	206	35.8	42.9	:	:	12.8	10.7	63.5	12.4	0.58	8.8	0.34	5.2	0.67	10.2
1991	67.0	13.2	19.5	291	33.8	39.0	:	:	12.4	10.6	61.0	12.0	0.47	7.1	0.29	4.6	0.58	8.6
1996	59.3	11.6	21.4	360	30.2	33.2	:	:	12.3	10.9	60.7	11.9	0.37	6.2	0.23	3.9	0.55	9.2
2001	52.5	10.4	22.8	433	29.6	31.0	:	:	10.7	9.7	57.4	11.3	0.29	5.5	0.20	3.8	0.45	8.5
2002	51.3	10.1	22.5	440	29.8	30.8	:	:	10.9	10.0	58.1	11.5	0.27	5.3	0.16	3.2	0.39	7.6
2003	52.4	10.4	23.9	455	30.8	31.3	:	:	10.9	10.2	58.5	11.6	0.27	5.1	0.18	3.4	0.42	8.0
2004	54.0	10.6	25.2	467	32.2	32.1	:	:	11.3	10.5	56.2	11.1	0.27	4.9	0.17	3.1	0.44	8.1
2005	54.4	10.7	25.6	471	30.9	30.3	0.08[10]	2.5[10]	10.9	10.3	55.7	10.9	0.28	5.2	0.19	3.5	0.42	7.7
2006	55.7	10.9	26.6	477	29.9	28.7	1.05	1.0	13.1	12.3	55.1	10.8	0.25	4.5	0.17	3.1	0.42	7.4
2007	57.8	11.2	28.4	491	29.9	28.1	0.69	0.6	12.8	12.2	56.0	10.9	0.27	4.7	0.19	3.2	0.45	7.8
2008	60.0	11.6	30.1	501	28.9	26.6	0.53	0.5	11.5	11.0	55.7	10.8	0.25	4.2	0.17	2.8	0.45	7.4
2009	59.0	11.4	29.7	503	27.5	25.3	0.50	0.5[P]	10.4	10.0	53.9	10.4	0.24	4.0	0.17	2.8	0.44	7.4
2007 March	14.2	11.2	7.1	501	3.3	12.7	0.11	0.4	3.3	12.8	15.8	12.5	0.07	4.9	0.05	3.6	0.12	8.1
June	14.3	11.1	6.9	482	8.1	30.7	0.18	0.7	3.3	12.7	13.4	10.4	0.08	5.3	0.05	3.4	0.12	8.6
Sept	14.9	11.5	7.2	485	12.6	47.1	0.25	0.9	3.0	11.4	12.6	9.7	0.07	4.6	0.05	3.0	0.11	7.1
Dec	14.4	11.1	7.1	497	5.8	21.6	0.15	0.6	3.1	11.8	14.2	10.9	0.06	3.9	0.04	2.9	0.11	7.5
2008 March	15.1	11.9	7.7	510	3.4	12.7	0.10	0.4	2.8	10.7	15.1	11.7	0.06	4.0	0.04	2.8	0.11	7.0
June	14.9	11.5	7.3	488	7.9	29.2	0.11	0.4	3.0	11.8	13.5	10.5	0.06	4.0	0.04	2.5	0.11	7.5
Sept	15.5	11.9	7.7	498	11.9	43.5	0.20	0.7	2.8	10.9	12.6	9.7	0.07	4.8	0.05	3.4	0.11	6.9
Dec	14.5	11.2	7.4	507	5.7	20.7	0.12	0.4	2.8	10.8	14.5	11.2	0.06	4.1	0.04	2.4	0.12	8.2
2009 March	14.5	11.3	7.4	512	3.2	11.9	0.05	0.2[P]	2.5	9.9	14.8	11.6	0.06	4.3	0.04	2.9	0.10	6.7
June	14.9	11.5	7.4	495	7.9	29.0	0.15	0.5[P]	2.8	10.6	12.8	9.9	0.06	4.0	0.05	3.2	0.13	8.9
Sept	15.3	11.7	7.6	499	11.3	41.0	0.19	0.7[P]	2.6	10.0	12.4	9.5	0.06	3.9	0.04	2.6	0.10	6.5
Dec	14.4	11.0	7.3	507	5.2	19.0	0.11	0.4[P]	2.5	9.4	13.8	10.5	0.05	3.7	0.04	2.5	0.11	7.4
2010 March	14.7[P]	11.5[P]	7.5[P]	512[P]	3.1[P]	11.7[P]	0.06[P]	0.2[P]	..	..	14.7[P]	11.4[P]	0.06[P]	4.4[P]	0.05[P]	3.1[P]	0.12[P]	7.8[P]
Northern Ireland																		
1976	26.4	17.3	1.3	50	9.9	..	:	:	0.6	..	17.0	11.2	0.48	18.3	0.35	13.3	0.59	22.3
1981	27.2	17.6	1.9	70	9.6	45.4	:	:	1.4	4.2	16.3	10.6	0.36	13.2	0.23	8.3	0.42	15.3
1986	28.0	17.8	3.6	128	10.2	..	:	:	1.5	..	16.1	10.3	0.36	13.2	0.23	8.3	0.42	15.3
1991	26.0	16.2	5.3	203	9.2	..	:	:	2.3	..	15.1	9.4	0.19	7.4	0.12	4.6	0.22	8.4
1996	24.4	14.7	6.3	260	8.3	..	:	:	2.3	..	15.2	9.2	0.14	5.8	0.09	3.7	0.23	9.4
2001	22.0	13.0	7.1	325	7.3	..	:	:	2.4	..	14.5	8.6	0.13	6.0	0.10	4.4	0.19	8.4
2002	21.4	12.6	7.2	335	7.6	..	:	:	2.2	..	14.6	8.6	0.10	4.6	0.07	3.4	0.19	8.7
2003	21.6	12.7	7.4	344	7.8	..	:	:	2.3	..	14.5	8.5	0.12	5.2	0.09	3.9	0.18	8.0
2004	22.3	13.0	7.7	345	8.3	..	:	:	2.5	..	14.4	8.4	0.12	5.3	0.08	3.6	0.19	8.0
2005	22.3	12.9	8.1	363	8.1	..	0.01[10]	..	2.4	..	14.2	8.2	0.14	6.1	0.11	4.9	0.19	8.1
2006	23.3	13.4	8.8	380	8.3	..	0.12	..	2.6	..	14.5	8.3	0.12	5.1	0.09	3.8	0.17	6.9
2007	24.5	13.9	9.3	379	8.7	..	0.11	..	2.9	..	14.6	8.3	0.12	4.9	0.08	3.2	0.17	6.9
2008	25.6	14.4	10.0	389	8.5	..	0.09	..	2.8	..	14.9	8.4	0.12	4.7	0.10	3.6	0.19	7.4
2009	24.9[P]	13.9[P]	9.9[P]	398[P]	7.9[P]	..	0.10[P]	..	2.2[P]	..	14.4[P]	8.1[P]	0.13[P]	5.1[P]	0.10[P]	3.8[P]	0.20[P]	7.8[P]
2007 March	6.1	14.0	2.4	383	1.0	..	0.02	..	0.9	..	4.2	9.7	0.04	6.7	0.03	4.6	0.05	7.6
June	6.0	13.6	2.2	365	2.4	..	0.03	..	0.7	..	3.6	8.2	0.03	5.1	0.02	2.9	0.04	6.7
Sept	6.5	14.7	2.5	386	3.8	..	0.04	..	0.7	..	3.3	7.3	0.03	4.6	0.02	3.2	0.05	7.0
Dec	5.9	13.3	2.2	380	1.6	..	0.02	..	0.6	..	3.6	8.1	0.02	3.3	0.01	2.2	0.04	6.5
2008 March	6.5	14.7	2.6	396	1.1	..	0.02	..	0.8	..	4.1	9.4	0.03	4.6	0.03	3.9	0.05	7.3
June	6.3	14.3	2.4	384	2.2	..	0.02	..	0.7	..	3.6	8.2	0.03	4.6	0.02	3.5	0.04	6.4
Sept	6.5	14.5	2.5	386	3.6	..	0.02	..	0.6	..	3.4	7.7	0.03	3.8	0.02	2.7	0.05	7.5
Dec	6.3	14.2	2.5	389	1.6	..	0.02	..	0.7	..	3.7	8.4	0.04	5.7	0.03	4.3	0.05	8.2
2009 March	6.3[P]	14.1[P]	2.6[P]	409[P]	0.9[P]	..	0.01[P]	..	0.6[P]	..	4.2[P]	9.5[P]	0.04[P]	6.5[P]	0.03[P]	4.8[P]	0.07[P]	10.0[P]
June	6.3[P]	14.1[P]	2.4[P]	389[P]	2.3[P]	..	0.02[P]	..	0.6[P]	..	3.4[P]	7.7[P]	0.03[P]	4.8[P]	0.02[P]	3.4[P]	0.04[P]	6.0[P]
Sept	6.3[P]	14.2[P]	2.5[P]	397[P]	3.2[P]	..	0.03[P]	..	0.5[P]	..	3.2[P]	7.2[P]	0.04[P]	5.6[P]	0.03[P]	4.5[P]	0.05[P]	8.0[P]
Dec	6.0[P]	13.3[P]	2.4[P]	395[P]	1.5[P]	..	0.03[P]	..	0.5[P]	..	3.6[P]	8.0[P]	0.02[P]	3.5[P]	0.02[P]	2.5[P]	0.04[P]	7.0[P]
2010 March	6.4[P]	14.4[P]	2.6[P]	407[P]	0.9[P]	..	0.02[P]	..	..	..	4.1[P]	9.3[P]	0.04[P]	6.1[P]	0.03[P]	4.5[P]	0.05[P]	8.2[P]

See notes on first page of table

Table 2.2 Key demographic and health indicators

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

Year and quarter	Population	Live births	Deaths	Dependency ratio: Children[1]	Dependency ratio: Elderly[2]	Live births: TFR[3]	Live births: Standardised mean age of mother at birth (years)[4]	Live births: Unstandardised mean age of mother at birth (years)[5]	Live births: Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Period expectation of life (in years) at birth[7]: Males	Period expectation of life (in years) at birth[7]: Females	Infant mortality rate[8]
United Kingdom													
1976	56,216.1	675.5	680.8	42.1	29.5	1.74	26.7	26.4	9.0	10,486	..	..	14.5
1981	56,357.5	730.7	658.0	37.1	29.7	1.82	27.0	26.8	12.5	9,506	70.8	76.8	11.2
1986	56,683.8	754.8	660.7	33.5	29.7	1.78	27.4	27.0	20.4	8,914	71.9	77.7	9.5
1991	57,438.7	792.3	646.2	33.2	30.0	1.82	27.7	27.7	29.8	8,168	73.2	78.7	7.4
1996	58,164.4	733.2	636.0	33.9	30.0	1.73	28.2	28.6	35.5	7,584	74.2	79.4	6.1
2001	59,113.5	669.1	602.3	32.6	29.8	1.63	28.6	29.2	40.1	6,807	75.6	80.4	5.5
2002	59,318.8	668.8	606.2	32.2	29.8	1.64	28.7	29.3	40.6	6,791	75.9	80.5	5.3
2003	59,552.2	695.6	612.0	31.8	29.9	1.71	28.8	29.4	41.5	6,773	76.2	80.7	5.3
2004	59,841.9	716.0	583.1	31.4	30.0	1.77	29.0	29.4	42.3	6,421	76.5	80.9	5.1
2005	60,235.5	722.5	582.7	31.0	30.0	1.78	29.1	29.5	42.9	6,279	76.9	81.3	5.1
2006	60,584.3	748.6	572.2	30.6	30.1	1.84	29.2	29.5	43.7	6,066	77.2	81.5	5.0
2007	60,985.7	772.2	574.7	30.4	30.5	1.90	29.3	29.5	44.4	5,965	77.4	81.6	4.8
2008	61,398.2	794.4	579.7	30.2	31.0	1.96	29.3	29.5	45.3	5,907	..	..	4.7
2009P	61,792.0	790.2	559.6	30.2	31.4	1.94	29.4	29.5	46.3	5,626	..	..	4.6
England													
1976	46,659.9	550.4	560.3	41.4	29.7	1.70	26.5	26.4	9.2	10,271	..	..	14.2
1981	46,820.8	598.2	541.0	36.4	29.9	1.79	27.0	26.8	12.9	9,298	71.1	77.0	10.9
1986	47,187.6	623.6	544.5	33.1	29.8	1.76	27.4	27.0	21.4	8,725	72.2	77.9	9.5
1991	47,875.0	660.8	534.0	32.9	30.0	1.81	27.7	27.7	30.1	8,017	73.4	78.9	7.3
1996	48,519.1	614.2	524.0	33.7	30.0	1.73	28.2	28.7	35.5	7,414	74.5	79.6	6.1
2001	49,449.7	563.7	496.1	32.5	29.7	1.63	28.6	29.3	39.6	6,650	75.9	80.6	5.4
2002	49,649.1	565.7	499.1	32.1	29.7	1.65	28.7	29.4	40.1	6,631	76.1	80.7	5.3
2003	49,863.3	589.9	503.4	31.8	29.8	1.73	28.9	29.4	40.9	6,617	76.5	80.9	5.3
2004	50,109.7	607.2	479.2	31.4	29.8	1.78	29.0	29.5	41.7	6,265	76.8	81.1	5.1
2005	50,466.2	613.0	479.4	30.9	29.9	1.79	29.1	29.5	42.3	6,131	77.2	81.5	5.0
2006	50,763.9	635.7	470.3	30.6	29.9	1.86	29.2	29.5	43.0	5,914	77.5	81.7	5.0
2007	51,106.2	655.4	470.7	30.4	30.3	1.91	29.3	29.6	43.8	5,791	77.7	81.9	4.8
2008	51,464.6	672.8	475.8	30.3	30.8	1.96	29.4	29.5	44.7	5,746	..	..	4.7
2009	51,809.7	671.1	459.2	30.2	31.2	1.96	29.4	29.5	45.7	5,472	..	..	4.6
Wales													
1976	2,799.3	33.4	36.3	42.0	30.9	1.78	26.2	26.0	8.6	10,858	..	..	13.7
1981	2,813.5	35.8	35.0	37.6	31.6	1.87	26.7	26.6	11.2	9,846	70.4	76.4	12.6
1986	2,810.9	37.0	34.7	34.3	32.5	1.86	26.9	26.5	21.1	9,043	71.6	77.5	9.5
1991	2,873.0	38.1	34.1	34.4	33.5	1.88	27.1	27.0	32.3	8,149	73.1	78.8	6.6
1996	2,891.3	34.9	34.6	34.9	33.7	1.81	27.5	27.8	41.2	7,758	73.8	79.1	5.6
2001	2,910.2	30.6	33.0	33.7	33.6	1.66	27.8	28.3	48.3	7,017	75.3	80.0	5.5
2002	2,918.2	30.2	33.2	33.3	33.7	1.65	28.0	28.4	49.7	6,997	75.5	80.1	4.7
2003	2,928.8	31.4	33.7	32.8	33.8	1.73	28.1	28.5	50.3	7,033	75.8	80.3	4.1
2004	2,943.5	32.3	32.1	32.3	33.9	1.79	28.2	28.5	51.3	6,645	76.1	80.6	5.1
2005	2,950.1	32.6	32.1	31.8	34.1	1.81	28.4	28.5	52.4	6,481	76.6	80.9	4.3
2006	2,961.9	33.6	31.1	31.4	34.3	1.86	28.5	28.5	53.0	6,199	76.7	81.1	4.1
2007	2,976.1	34.4	32.1	31.0	34.9	1.91	28.6	28.6	53.8	6,308	76.9	81.2	5.3
2008	2,990.1	35.7	32.1	30.7	35.5	1.97	28.7	28.5	55.6	6,147	..	..	4.1
2009	2,999.3	34.9	31.0	30.6	36.1	1.93	28.7	28.5	56.6	5,884	..	..	4.8

Notes: Death figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993 to 2005.
Death figures for 2006 onwards relate to registrations.
Birth and death figures for England and also for Wales each exclude events for persons usually resident outside England and Wales (apart from life expectancy figures – where those occurring in England and Wales are assigned to England). These events are, however, included in the total for the United Kingdom.
From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom.
Birth and death rates for 2009 have been calculated using mid-2009 population estimates.
Birth and Death rates for 2010 have been calculated using the 2008-based population projections for 2010.
The birth rates, death rates and the standardised mean age of mother at birth for 2002–2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.
Infant mortality rates for Northern Ireland take account of the non-resident live births.

1 Percentage of children under 16 to working-age population (males 16–64 and females 16–59).
2 Percentage of males 65 and over and females 60 and over to working-age population (males 16–64 and females 16–59).
3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).
4 Standardised to take account of the age structure of the population.
5 Unstandardised and therefore takes no account of the age structure of the population.
6 Per million population.The age-standardised mortality rate makes allowances for changes in the age structure of the population. See Notes to tables.
7 All countries: figures for all years based on registered deaths. A minor methodological change was introduced for the 2006 figures to ensure consistency with population estimates of the very elderly for England and Wales. The effect on calculated life expectancies is marginal.
8 Deaths at age under one year per 1,000 live births. All infant mortality data has now been revised to registration data.
P Provisional.

Source: Office for National Statistics.

Table 2.2 continued **Key demographic and health indicators**

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

Year and quarter	Population	Live births	Deaths	Dependency ratio: Children[1]	Dependency ratio: Elderly[2]	Live births: TFR[3]	Live births: Standardised mean age of mother at birth (years)[4]	Live births: Unstandardised mean age of mother at birth (years)[5]	Live births: Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Period expectation of life (in years) at birth[7]: Males	Period expectation of life (in years) at birth[7]: Females	Infant mortality rate[8]
Scotland													
1976	5,233.4	64.9	65.3	44.7	28.4	1.79	26.4	26.0	9.3	11,675	..	..	14.8
1981	5,180.2	69.1	63.8	38.2	28.4	1.84	26.8	26.3	12.2	10,849	69.1	75.3	11.3
1986	5,111.8	65.8	63.5	33.6	28.1	1.67	27.1	26.6	20.6	10,120	70.2	76.2	8.8
1991	5,083.3	67.0	61.0	32.4	28.9	1.69	27.5	27.4	29.1	9,216	71.4	77.1	7.1
1996	5,092.2	59.3	60.7	32.3	29.2	1.56	28.0	28.5	36.0	8,791	72.2	77.9	6.2
2001	5,064.2	52.5	57.4	30.8	30.0	1.49	28.5	29.2	43.3	7,930	73.3	78.8	5.5
2002	5,054.8	51.3	58.1	30.3	30.2	1.48	28.6	29.2	44.0	7,955	73.5	78.9	5.3
2003	5,057.4	52.4	58.5	29.9	30.3	1.54	28.7	29.3	45.5	7,478	73.8	79.1	5.1
2004	5,078.4	54.0	56.2	29.5	30.5	1.60	28.9	29.4	46.7	7,536	74.2	79.3	4.9
2005	5,094.8	54.4	55.7	29.1	30.6	1.62	29.0	29.5	47.1	7,349	74.6	79.6	5.2
2006	5,116.9	55.7	55.1	28.7	30.6	1.67	29.1	29.5	47.7	7,162	74.8	79.7	4.5
2007	5,144.2	57.8	56.0	28.4	31.0	1.73	29.2	29.4	49.1	7,150	75.0	79.9	4.7
2008	5,168.5	60.0	55.7	28.2	31.4	1.80	29.3	29.4	50.1	7,006	..	..	4.2
2009	5,194.0	59.0	53.9	28.1	31.8	1.77	29.3	29.4	50.3	6,668	..	..	4.0
Northern Ireland													
1976	1,523.5	26.4	17.0	56.1	25.3	2.68	27.8	27.4	5.0	11,746	..	..	18.3
1981	1,543.0	27.2	16.3	50.6	25.3	2.59	28.1	27.5	7.0	10,567	69.2	75.5	13.2
1986	1,573.5	28.0	16.1	46.1	25.5	2.45	28.1	27.5	12.8	10,071	70.9	77.1	13.2
1991	1,607.3	26.0	15.1	44.1	26.1	2.16	28.3	28.0	20.3	8,303	72.6	78.4	7.4
1996	1,661.8	24.4	15.2	41.8	25.5	1.95	28.7	28.8	26.0	7,742	73.8	79.2	5.8
2001	1,689.3	22.0	14.5	38.6	25.5	1.80	29.1	29.4	32.5	6,976	75.2	80.1	6.0
2002	1,696.6	21.4	14.6	37.9	25.7	1.77	29.1	29.4	33.5	6,929	75.6	80.4	4.6
2003	1,702.6	21.6	14.5	37.2	25.9	1.81	29.2	29.5	34.4	6,742	75.8	80.6	5.2
2004	1,710.3	22.3	14.4	36.4	26.2	1.87	29.4	29.7	34.5	6,607	76.0	80.8	5.3
2005	1,724.4	22.3	14.2	35.8	26.3	1.87	29.5	29.7	36.3	6,415	76.1	81.0	6.1
2006	1,741.6	23.3	14.5	35.3	26.4	1.94	29.6	29.7	38.0	6,419	76.2	81.2	5.1
2007	1,759.1	24.5	14.6	34.9	26.6	2.02	29.8	29.8	37.9	6,319	76.3	81.2	4.9
2008	1,775.0	25.6	14.9	34.7	26.9	2.11	29.8	29.7	38.9	6,299	..	..	4.7
2009[p]	1,788.9	24.9	14.4	34.6	27.3	2.04	29.8	29.7	39.8	6,014	..	..	5.1

See notes on first page of table

Table 3.1 Live births: age of mother

England and Wales

Numbers (thousands), rates, mean age and TFRs

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[2] (years)	TFR[3]
	Total live births (numbers)								Age-specific fertility rates[4]								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	27.6	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.4	2.77
1964 (max)	876.0	76.7	276.1	270.7	153.5	75.4	23.6	27.2	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.3	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	26.8	90.5	47.7	176.0	174.0	97.3	45.3	12.5	27.1	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	26.2	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.6	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	26.4	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.5	1.71
1977 (min)	569.3	54.5	174.5	207.9	100.8	25.5	6.0	26.5	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.6	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	26.8	61.3	28.1	105.3	129.1	68.6	21.7	4.9	27.0	1.79
1986	661.0	57.4	192.1	229.0	129.5	45.5	7.6	27.0	60.6	30.1	92.7	123.8	78.0	24.6	4.8	27.4	1.77
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	27.7	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.7	1.82
1992	689.7	47.9	163.3	244.8	166.8	56.7	10.2	27.9	63.6	31.7	86.1	117.6	87.4	33.4	5.8	27.8	1.80
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	28.1	62.7	30.9	82.5	114.4	87.4	34.1	6.2	27.9	1.76
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	28.4	62.0	28.9	79.0	112.2	89.4	35.8	6.4	28.1	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	28.5	60.5	28.5	76.4	108.4	88.3	36.3	6.8	28.2	1.72
1996	649.5	44.7	125.7	211.1	186.4	69.5	12.1	28.6	60.6	29.7	77.0	106.6	89.8	37.5	7.2	28.2	1.74
1997	643.1	46.4	118.6	202.8	187.5	74.9	12.9	28.8	60.0	30.2	76.0	104.3	89.8	39.4	7.6	28.3	1.73
1998	635.9	48.3	113.5	193.1	188.5	78.9	13.6	28.9	59.2	30.9	74.9	101.5	90.6	40.4	7.9	28.3	1.72
1999	621.9	48.4	110.7	181.9	185.3	81.3	14.3	29.0	57.8	30.9	73.0	98.3	89.6	40.6	8.1	28.4	1.70
2000	604.4	45.8	107.7	170.7	180.1	85.0	15.1	29.1	55.9	29.3	70.0	94.3	87.9	41.4	8.3	28.5	1.65
2001	594.6	44.2	108.8	159.9	178.9	86.5	16.3	29.2	54.7	28.0	69.0	91.7	88.0	41.5	8.8	28.6	1.63
2002	596.1	43.5	111.0	153.4	180.5	90.4	17.3	29.3	54.7	27.1	69.1	91.5	89.9	43.0	9.1	28.7	1.65
2003	621.5	44.2	116.6	156.9	187.2	97.4	19.1	29.4	56.8	26.9	71.3	96.0	95.0	46.4	9.8	28.8	1.73
2004	639.7	45.1	121.1	160.0	190.6	102.2	20.8	29.4	58.2	26.8	72.7	97.7	99.7	48.8	10.4	28.9	1.78
2005	645.8	44.8	122.1	164.3	188.2	104.1	22.2	29.5	58.3	26.3	71.5	97.9	100.8	50.3	10.8	29.1	1.79
2006	669.6	45.5	127.8	172.6	189.4	110.5	23.7	29.5	60.2	26.6	73.0	100.7	104.9	53.9	11.4	29.1	1.86
2007	690.0	44.8	130.8	182.6	191.1	115.4	25.4	29.5	62.0	26.0	73.3	103.8	110.2	56.9	12.0	29.3	1.91
2008	708.7	44.7	136.0	193.0	192.5	116.2	26.4	29.5	63.8	26.0	74.4	108.1	113.1	58.4	12.6	29.3	1.97
2009	706.2	43.2	136.0	194.1	191.6	114.3	27.0	29.5	63.7	25.3	73.9	107.2	113.1	59.0	12.9	29.4	1.96
2004 March	155.2	11.0	29.3	38.7	46.6	24.7	4.9	29.4	56.8	26.4	70.7	95.1	98.0	47.4	9.8	28.9	1.74
June	157.4	10.7	29.4	39.4	47.7	25.2	5.0	29.5	57.6	25.6	70.9	96.7	100.5	48.5	10.1	29.0	1.76
Sept	165.4	11.7	31.4	41.6	49.0	26.3	5.4	29.4	59.9	27.7	74.9	101.1	102.1	50.1	10.7	28.9	1.83
Dec	161.7	11.6	31.1	40.3	47.2	26.0	5.5	29.4	58.5	27.6	74.3	97.8	98.3	49.4	10.9	28.9	1.79
2005 March	154.3	10.9	29.3	38.9	45.0	24.7	5.4	29.4	56.5	26.0	69.5	94.1	97.7	48.5	10.7	29.0	1.74
June	159.8	10.7	29.6	40.3	47.5	26.2	5.4	29.5	57.8	25.3	69.6	96.3	102.0	50.8	10.6	29.1	1.78
Sept	170.2	11.9	32.5	43.7	49.4	26.9	5.7	29.4	60.9	27.6	75.6	103.3	105.0	51.6	11.1	29.0	1.88
Dec	161.7	11.3	30.7	41.4	46.3	26.3	5.7	29.4	57.9	26.3	71.2	97.9	98.4	50.4	11.0	29.0	1.78
2006 March	159.5	11.1	30.5	40.7	45.3	26.3	5.6	29.5	58.2	26.3	70.7	96.1	101.7	52.0	11.0	29.1	1.79
June	166.2	11.4	31.2	42.9	47.6	27.1	5.9	29.5	60.0	26.6	71.6	100.4	105.8	53.0	11.3	29.2	1.85
Sept	174.9	12.0	33.5	45.6	49.0	28.9	6.0	29.4	62.4	27.7	75.9	105.4	107.6	56.0	11.4	29.1	1.93
Dec	169.0	11.1	32.6	43.5	47.5	28.1	6.2	29.5	60.3	25.7	73.9	100.5	101.4	54.4	11.8	29.2	1.86
2007 March	164.0	10.9	31.1	42.7	45.7	27.4	6.2	29.5	59.8	25.6	70.8	98.5	106.9	54.8	12.0	29.3	1.85
June	169.5	10.7	31.4	44.6	47.8	28.9	6.2	29.6	61.1	25.0	70.6	101.8	110.5	57.1	11.8	29.4	1.89
Sept	181.4	11.9	34.6	48.6	50.0	29.9	6.4	29.5	64.7	27.3	76.9	109.8	114.4	58.6	12.0	29.2	2.00
Dec	175.0	11.3	33.7	46.6	47.6	29.2	6.6	29.5	62.4	26.1	74.9	105.2	108.9	57.2	12.4	29.3	1.93
2008 March	173.8	11.1	33.5	46.7	47.2	28.8	6.4	29.5	62.9	26.0	73.9	105.2	111.5	58.2	12.4	29.3	1.94
June	177.0	11.0	33.5	48.3	48.4	29.2	6.6	29.5	64.0	25.8	73.7	108.9	114.3	59.1	12.6	29.4	1.97
Sept	182.4	11.4	35.2	50.3	49.3	29.5	6.7	29.4	65.3	26.5	76.6	112.1	115.2	59.0	12.8	29.3	2.01
Dec	175.5	11.1	33.8	47.7	47.6	28.7	6.7	29.5	62.8	25.8	73.6	106.2	111.4	57.4	12.6	29.3	1.94
2009 March	169.0	10.9	32.8	46.1	45.4	27.2	6.5	29.4	61.8	26.0	72.3	103.2	108.6	57.0	12.6	29.3	1.90
June	175.1	10.5	33.2	48.2	47.7	28.7	6.8	29.6	63.4	24.7	72.4	106.8	112.8	59.5	13.0	29.5	1.95
Sept	181.3	10.9	35.1	50.3	49.3	28.9	6.8	29.5	64.9	25.2	75.7	110.2	115.5	59.2	12.8	29.4	1.99
Dec	180.9	10.9	34.9	49.5	49.2	29.4	6 9	29.5	64.8	25.3	75.3	108.5	115.3	60.2	13.1	29.4	1.99
2010 March[P]	174.6	10.5	33.4	48.0	47.6	28.2	6.8	29.5	63.9	25.4	72.3	104.4	112.0	60.8	13.4	29.4	1.94

Notes: The rates for women of all ages, under 20, and 40 and over are based upon the populations of women aged 15–44, 15–19, and 40–44 respectively.
Rates for 2009 are based on mid-2009 population estimates.
Rates for 2010 are based on 2008-based population projections for 2010.
Birth rates and the standardised mean age of mother for 2002-2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Numbers of live births by age group may not sum to all ages due to rounding.

1 Unstandardised and therefore takes no account of the age structure of the population.

2 Standardised to take account of the age structure of the population.This measure is more appropriate for use when analysing trends or making comparisons between different geographies.

3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFR (total period fertility rate).

4 Births per 1,000 women in the age-group; all quarterly age-specific fertility rates are adjusted for days in the quarter. They are not adjusted for seasonality.

P Provisional.

Source: Office for National Statistics.

Table 3.2 Live births outside marriage: age of mother and type of registration

England and Wales

Numbers (thousands), mean age and percentages

Year and quarter	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean age[1] (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Registration[2]: Joint: Same address[3]	Joint: Different addresses[3]	Sole
	Live births outside marriage (numbers)								Percentage of total live births in age group							As a percentage of all births outside marriage		
1971	65.7	21.6	22.0	11.5	6.2	3.2	1.1	23.7	8.4	26.1	7.7	4.7	5.7	7.0	9.0	45.5		54.5
1976	53.8	19.8	16.6	9.7	4.7	2.3	0.7	23.3	9.2	34.2	9.1	4.4	5.2	8.6	10.1	51.0		49.0
1981	81.0	26.4	28.8	14.3	7.9	1.3	0.9	23.4	12.8	46.7	14.8	6.6	6.2	3.9	12.5	58.2		41.8
1986	141.3	39.6	54.1	27.7	13.1	5.7	1.1	23.8	21.4	69.0	28.2	12.1	10.1	12.6	14.7	46.6	19.6	33.8
1991	211.3	43.4	77.8	52.4	25.7	9.8	2.1	24.8	30.2	82.9	44.9	21.1	16.0	18.3	21.3	54.6	19.8	25.6
1992	215.2	40.1	77.1	55.9	28.9	10.9	2.3	25.2	31.2	83.7	47.2	22.8	17.3	19.3	22.9	55.4	20.7	23.9
1993	216.5	38.2	75.0	57.5	31.4	11.9	2.5	25.5	32.2	84.8	49.4	24.4	18.4	20.2	23.5	54.8	22.0	23.2
1994	215.5	35.9	71.0	58.5	34.0	13.4	2.7	25.8	32.4	85.5	50.6	25.5	18.9	21.2	25.2	57.5	19.8	22.7
1995	219.9	36.3	69.7	59.6	37.0	14.4	3.0	26.0	33.9	86.6	53.3	27.4	20.4	22.0	26.2	58.1	20.1	21.8
1996	232.7	39.3	71.1	62.3	40.5	16.2	3.2	26.1	35.8	88.0	56.5	29.5	21.7	23.4	26.7	58.1	19.9	21.9
1997	238.2	41.1	69.5	63.4	42.2	18.2	3.7	26.2	37.0	88.7	58.6	31.3	22.5	24.3	28.6	59.5	19.3	21.2
1998	240.6	43.0	67.8	62.4	43.9	19.6	3.9	26.3	37.8	89.1	59.7	32.3	23.3	24.8	29.0	60.9	18.3	20.8
1999	241.9	43.0	67.5	61.2	45.0	20.8	4.3	26.4	38.9	89.0	61.0	33.6	24.3	25.6	30.2	61.8	18.2	19.9
2000	238.6	41.1	67.5	59.1	43.9	22.3	4.7	26.5	39.5	89.7	62.6	34.6	24.4	26.2	31.0	62.7	18.2	19.2
2001	238.1	39.5	68.1	56.8	45.2	23.3	5.1	26.7	40.0	89.5	62.6	35.5	25.3	26.9	31.6	63.2	18.4	18.4
2002	242.0	38.9	70.2	55.8	46.4	25.1	5.6	26.8	40.6	89.5	63.3	36.4	25.7	27.7	32.2	63.7	18.5	17.8
2003	257.2	39.9	75.7	58.2	49.2	27.8	6.4	26.9	41.4	90.2	64.9	37.1	26.3	28.5	33.3	63.5	19.0	17.4
2004	269.7	41.0	79.8	61.4	50.7	29.7	7.1	27.0	42.2	91.0	65.9	38.4	26.6	29.0	34.0	63.6	19.6	16.8
2005	276.5	41.2	82.1	64.4	50.8	30.3	7.7	27.0	42.8	91.8	67.2	39.2	27.0	29.1	34.8	63.5	20.2	16.3
2006	291.4	42.3	87.7	69.3	51.4	32.2	8.4	27.0	43.5	93.0	68.6	40.1	27.1	29.2	35.5	63.7	20.7	15.6
2007	305.6	41.7	91.9	76.0	53.0	34.0	9.0	27.1	44.3	93.1	70.3	41.6	27.7	29.5	35.5	65.0	20.1	15.0
2008	320.8	42.0	97.7	82.6	54.4	34.6	9.5	27.1	45.3	93.9	71.9	42.8	28.3	29.8	35.9	65.5	20.3	14.2
2009	326.2	40.9	100.1	85.6	55.8	34.1	9.6	27.1	46.2	94.6	73.6	44.1	29.1	29.9	35.7	65.7	20.9	13.4
2003 March	61.0	9.8	18.0	13.9	11.6	6.3	1.5	26.8	41.4	90.1	64.5	37.0	26.4	27.8	33.3	63.0	18.9	18.1
June	62.8	9.6	18.3	14.2	12.2	6.9	1.6	27.0	40.5	90.0	64.0	36.2	25.7	28.3	33.7	64.0	18.5	17.5
Sept	67.6	10.3	20.0	15.3	13.0	7.3	1.7	26.9	41.5	90.2	65.6	37.3	26.4	28.6	33.3	63.7	19.3	16.9
Dec	65.8	10.2	19.5	14.8	12.5	7.2	1.6	26.9	42.2	90.4	65.6	38.0	26.8	29.4	32.9	63.3	19.4	17.3
2004 March	65.2	10.1	19.3	14.8	12.5	7.0	1.7	26.9	42.0	91.2	65.8	38.2	26.8	28.2	34.3	63.1	19.4	17.4
June	65.2	9.8	19.1	14.9	12.5	7.3	1.7	27.0	41.4	91.0	65.1	37.7	26.2	28.8	34.5	63.9	19.5	16.7
Sept	70.2	10.7	20.7	16.1	13.0	7.9	1.8	27.0	42.4	91.2	66.1	38.6	26.5	30.0	33.5	63.7	19.7	16.6
Dec	69.1	10.5	20.7	15.7	12.7	7.5	1.9	26.9	42.7	90.6	66.6	39.0	27.0	29.0	33.9	63.6	19.8	16.6
2005 March	66.3	10.1	19.6	15.2	12.2	7.3	1.9	27.0	43.0	92.0	67.0	39.0	27.1	29.6	35.2	63.1	20.3	16.6
June	66.6	9.8	19.7	15.4	12.5	7.4	1.8	27.0	41.7	91.2	66.5	38.2	26.4	28.1	33.5	63.7	19.8	16.5
Sept	73.7	10.9	22.1	17.3	13.4	7.9	2.1	26.9	43.3	92.0	68.0	39.6	27.2	29.3	35.7	63.7	20.3	16.0
Dec	69.9	10.4	20.7	16.5	12.6	7.7	2.0	27.0	43.2	92.1	67.4	39.8	27.3	29.4	34 8	63.5	20.3	16.2
2006 March	68.7	10.3	20.8	16.0	12.0	7.6	1.9	26.9	43.1	93.1	68.1	39.4	26.5	28.9	34.4	63.1	20.9	16.0
June	71.4	10.5	21.2	16.9	12.8	7.8	2.1	27.0	43.0	92.6	68.0	39.4	26.9	28.8	35.0	63.7	20.6	15.6
Sept	76.8	11.1	23.1	18.6	13.4	8.4	2.2	27.0	43.9	92.8	69.0	40.7	27.3	29.2	36.9	64.1	20.5	15.4
Dec	74.5	10.3	22.6	17.8	13.2	8.4	2.2	27.1	44.1	93.3	69.2	40.9	27.8	29.8	35.7	63.6	21.0	15.4
2007 March	72.5	10.2	21.7	17.6	12.6	8.2	2.2	27.1	44.2	93.5	69.8	41.3	27.5	29.8	35.1	64.0	20.5	15.5
June	73.5	9.9	21.8	18.3	13.0	8.3	2.2	27.1	43.4	92.6	69.5	41.0	27.2	28.8	35.2	65.1	19.9	14.9
Sept	80.8	11.1	24.4	20.4	13.9	8.8	2.2	27.0	44.5	93.2	70.5	41.9	27.8	29.6	35.0	65.2	20.1	14.7
Dec	78.7	10.6	24.0	19.7	13.5	8.7	2.4	27.1	45.0	93.1	71.3	42.2	28.3	29.6	36.5	65.3	19.9	14.8
2008 March	78.6	10.5	23.9	20.0	13.3	8.6	2.3	27.1	45.2	94.3	71.1	42.8	28.3	29.9	35.9	65.3	20.0	14.7
June	79.4	10.3	23.9	20.5	13.7	8.6	2.4	27.1	44.9	93.5	71.5	42.3	28.4	29.5	35.8	66.0	19.8	14.2
Sept	83.1	10.8	25.5	21.6	13.9	8.9	2.4	27.0	45.5	94.0	72.4	43.0	28.2	30.1	36.2	65.8	20.4	13.8
Dec	79.8	10.4	24.5	20.6	13.4	8.5	2.4	27.0	45.5	93.7	72.5	43.2	28.2	29.6	35.8	64.9	21.1	14.0
2009 March	77.8	10.3	23.9	20.2	13.0	8.1	2.3	27.0	46.0	94.4	72.8	43.9	28.7	29.6	35.0	64.9	21.2	13.9
June	79.4	9.9	24.3	20.8	13.6	8.4	2.4	27.1	45.4	94.4	73.1	43.1	28.5	29.4	35.2	65.7	20.7	13.6
Sept	84.4	10.3	26.0	22.3	14.6	8.8	2.4	27.1	46.6	94.7	74.0	44.4	29.5	30.5	35.7	66.1	20.7	13.2
Dec	84.5	10.3	25.9	22.3	14.6	8.8	2.5	27.1	46.7	94.8	74.3	45.0	29.7	29.9	36.7	66.0	21.1	13.0
2010 March[P]	81.9	10.1	25.0	21.8	14.1	8.4	2.5	27.0	46.9	95.8	74.7	45.4	29.6	29.9	36.5	65.6	21.5	12.9

Notes: The rates for women of all ages, under 20, and 40 and over are based upon the populations of women aged 15–44, 15–19, and 40–44 respectively.
Rates for 2009 are based on mid-2009 population estimates.
Rates for 2010 are based on 2008-based population projections for 2010.
Birth rates and the standardised mean age of mother for 2002–2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.
Numbers of live births by age group may not sum to all ages due to rounding.

1 Unstandardised and therefore takes no account of the age structure of the population.

2 Births outside marriage can be registered by both the mother and father (joint) or by the mother alone (sole).

3 Usual address(es) of parents.

P Provisional.

Source: Office for National Statistics.

Table 4.1 **Conceptions by age of woman at conception, 1990–2009**

England and Wales

residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
		(a) numbers (thousands)								
1990		871.5	8.1	44.8	113.3	244.5	284.2	161.4	56.0	12.0
1991		853.7	7.5	40.1	101.6	233.3	281.5	167.5	57.6	12.1
1992		828.0	7.2	37.6	93.4	215.9	274.9	172.0	59.6	12.2
1993		819.0	7.3	35.8	87.2	203.6	271.7	181.0	63.0	12.6
1994		801.6	7.8	36.1	85.4	190.4	261.8	185.0	66.2	12.9
1995		790.3	8.1	37.9	86.6	181.1	250.3	190.3	68.7	13.2
1996		816.9	8.9	43.5	94.9	179.8	252.6	200.0	75.5	14.1
1997		800.4	8.3	43.4	96.0	167.3	242.6	200.9	78.9	14.7
1998		797.0	8.5	44.1	101.6	163.3	232.4	201.4	82.9	15.4
1999		774.0	7.9	42.0	98.8	157.6	218.5	197.1	86.0	16.0
2000		767.0	8.1	41.3	97.7	159.0	209.3	195.3	88.7	17.0
2001		763.7	7.9	41.0	96.0	161.6	199.3	196.7	92.2	17.8
2002		787.0	7.9	42.0	97.1	167.8	199.4	204.3	98.9	19.6
2003		806.8	8.0	42.2	98.6	175.3	199.8	209.0	103.1	20.9
2004		826.8	7.6	42.2	101.3	181.3	205.1	209.6	106.8	22.8
2005		841.8	7.9	42.3	102.3	185.5	211.3	209.2	110.0	23.6
2006		870.0	7.8	41.8	103.1	191.2	222.2	212.4	115.4	25.5
2007		895.9	8.2	43.0	106.3	198.7	234.8	211.5	118.0	26.5
2008[P]		887.8	7.6	41.3	103.2	198.3	237.6	206.9	115.5	26.4
1996	March	206.3	2.3	10.9	24.2	47.3	64.0	49.2	18.3	3.4
	June	200.8	2.3	10.9	23.7	44.6	61.9	48.7	18.2	3.6
	Sept	202.6	2.1	10.5	22.6	43.1	63.2	50.8	19.2	3.6
	Dec	207.2	2.1	11.2	24.2	44.9	63.5	51.2	19.8	3.6
1997	March	194.1	2.0	10.6	23.2	41.6	59.4	47.7	18.6	3.6
	June	198.5	2.2	11.0	23.9	41.8	59.9	49.8	19.5	3.8
	Sept	199.2	2.0	10.4	23.3	40.4	60.7	51.2	19.9	3.6
	Dec	208.6	2.1	11.4	25.6	43.5	62.6	52.2	20.8	3.8
1998	March	196.5	2.1	11.2	25.3	41.1	57.7	48.9	19.9	3.6
	June	196.0	2.1	11.0	25.3	40.5	56.8	49.0	20.5	3.8
	Sept	200.8	2.1	10.7	24.7	40.0	59.1	51.9	21.1	3.9
	Dec	203.7	2.1	11.2	26.3	41.7	58.9	51.5	21.3	4.0
1999	March	191.5	1.9	10.4	24.9	39.6	54.3	48.4	20.6	3.8
	June	190.4	2.0	10.5	24.4	39.1	53.8	47.9	21.2	4.1
	Sept	194.0	2.0	10.4	24.1	38.4	54.7	50.7	22.1	4.1
	Dec	198.0	2.1	10.8	25.4	40.5	55.6	50.2	22.2	4.1
2000	March	193.1	2.0	10.5	25.1	40.4	53.2	48.3	21.9	4.2
	June	188.7	2.1	10.4	24.3	39.3	51.5	47.5	21.8	4.3
	Sept	190.0	2.1	10.0	23.5	38.4	52.0	49.7	22.2	4.2
	Dec	195.2	2.0	10.4	24.7	40.9	52.7	49.8	22.7	4.3
2001	March	189.2	1.9	10.2	24.3	40.4	50.0	47.8	22.3	4.4
	June	187.4	2.1	10.2	24.0	39.8	48.8	47.7	22.8	4.4
	Sept	189.3	1.9	10.0	23.1	39.2	49.5	49.9	23.2	4.4
	Dec	197.9	2.0	10.6	24.6	42.3	51.1	51.3	23.9	4.7
2002	March	191.6	1.9	10.3	24.1	41.3	48.8	49.0	23.7	4.6
	June	190.4	2.0	10.5	24.2	40.7	48.2	48.8	23.8	4.8
	Sept	197.4	2.0	10.2	23.4	41.4	50.2	52.4	25.2	4.9
	Dec	207.6	2.0	11.0	25.4	44.4	52.3	54.2	26.2	5.2
2003	March	198.2	1.9	10.5	24.5	42.9	49.4	51.2	25.2	4.9
	June	198.5	2.1	10.8	24.7	43.2	49.1	51.1	25.2	5.2
	Sept	200.1	2.0	10.2	23.7	43.1	49.3	52.8	26.1	5.2
	Dec	210.0	2.0	10.7	25.7	46.1	52.0	54.0	26.7	5.6
2004	March	207.9	2.0	10.9	26.2	45.9	51.1	52.6	26.6	5.6
	June	200.1	1.9	10.6	25.0	43.7	49.3	50.4	25.9	5.7
	Sept	203.6	1.8	10.0	24.0	44.1	50.7	52.7	26.6	5.6
	Dec	215.2	1.9	10.8	26.1	47.7	54.0	54.0	27.6	5.8

Notes: Conception figures are estimates derived from birth registrations and abortion notifications.
Rates for women of all ages, under 16, under 18, under 20 and 40 and over are based on the population of women aged 15–44, 13–15, 15–17, 15–19 and 40–44 respectively.
Revised mid-2002 to mid-2008 population estimates published on 13 May 2010 have been used in the calculation of conception rates. Figures may therefore differ from those published previously.
Provisional quarterly rates for 2009 are calculated using the mid-2009 population estimates.
For a quarterly analysis of conceptions to women under 18 for local authority areas see the National Statistics website www.statistics.gov.uk/statbase/product.asp?vlnk=15055.

1 Figures for conceptions by age for the March and June quarters of 2009 exclude maternities relating to births in 2010 where the mother's age was not recorded.

P Provisional.

Source: Office for National Statistics.

Table 4.1 continued **Conceptions by age of woman at conception, 1990–2009**

England and Wales

residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
2005	March	204.6	1.9	10.4	25.1	45.4	50.8	51.0	26.6	5.7
	June	204.7	2.0	10.5	25.1	45.2	51.0	50.7	26.9	5.8
	Sept	210.9	2.0	10.4	25.3	45.6	53.3	53.1	27.5	6.0
	Dec	221.7	2.0	11.0	26.8	49.3	56.2	54.3	29.1	6.0
2006	March	214.0	1.8	10.2	25.4	47.5	54.2	52.4	28.3	6.2
	June	212.6	2.1	10.6	25.7	46.9	53.8	51.4	28.3	6.5
	Sept	215.1	2.0	10.0	24.7	46.3	55.3	53.6	28.9	6.4
	Dec	228.2	2.0	11.0	27.3	50.6	58.9	55.1	29.9	6.5
2007	March	221.6	2.0	10.8	26.7	49.4	57.0	52.7	29.3	6.5
	June	221.3	2.1	10.9	26.9	49.3	57.5	52.0	29.0	6.5
	Sept	222.7	2.0	10.4	25.7	48.6	58.9	53.0	29.8	6.7
	Dec	230.3	2.0	10.9	27.0	51.3	61.4	53.9	29.9	6.8
2008	March[P]	224.3	2.0	10.7	26.9	49.9	59.3	52.4	29.2	6.7
	June[P]	216.1	2.0	10.6	26.0	48.7	57.2	49.6	28.1	6.5
	Sept[P]	221.1	1.8	9.9	24.7	48.8	59.6	52.1	29.1	6.7
	Dec[P]	226.4	1.8	10.1	25.6	50.9	61.5	52.8	29.0	6.5
2009	March[1,P]	224.0	1.9	9.8	25.2	50.2	60.1	52.6	29.2	6.7
	June[1,P]	222.0	2.0	10.1	25.3	49.6	59.3	51.7	28.9	6.8
		(b) rates (conceptions per thousand women in age-group)								
1990		79.2	9.5	47.7	68.0	124.0	138.0	89.7	33.6	6.6
1991		77.7	8.9	44.6	64.1	120.2	135.1	90.1	34.4	6.6
1992		76.3	8.4	43.5	61.9	113.9	132.0	90.1	35.2	6.9
1993		76.2	8.1	42.4	59.7	110.5	131.7	92.5	36.6	7.4
1994		74.8	8.3	41.9	58.7	107.3	128.3	92.1	37.6	7.6
1995		73.8	8.6	41.9	58.7	105.8	124.8	92.8	38.1	7.9
1996		76.2	9.5	46.3	63.2	110.1	127.6	96.3	40.7	8.4
1997		74.6	8.9	45.9	62.6	107.2	124.7	96.2	41.4	8.7
1998		74.2	9.0	47.1	65.1	107.7	122.2	96.8	42.4	8.9
1999		71.9	8.3	45.1	63.1	103.9	118.0	95.3	42.9	9.1
2000		70.9	8.3	43.9	62.5	103.2	115.7	95.3	43.2	9.4
2001		70.3	8.0	42.7	60.8	102.5	114.2	96.7	44.3	9.6
2002		72.2	7.9	42.9	60.6	104.4	119.0	101.7	47.0	10.3
2003		73.7	7.9	42.3	59.9	107.1	122.2	106.1	49.1	10.7
2004		75.2	7.5	41.8	60.3	108.8	125.3	109.7	51.0	11.4
2005		76.0	7.8	41.5	60.0	108.6	125.9	112.1	53.2	11.5
2006		78.3	7.8	40.9	60.2	109.3	129.6	117.7	56.3	12.3
2007		80.5	8.3	42.0	61.7	111.4	133.5	122.0	58.2	12.6
2008[1,2,P]		79.9	7.8	40.7	60.1	108.6	133.1	121.6	58.1	12.6
1996	March	77.4	10.0	47.5	65.4	114.4	129.3	95.8	40.1	8.1
	June	75.3	9.8	46.9	63.7	109.1	125.6	94.6	39.7	8.6
	Sept	75.2	9.1	44.4	59.8	105.6	127.3	97.4	41.1	8.5
	Dec	76.9	9.0	47.3	63.7	111.2	128.4	97.9	42.0	8.5
1997	March	73.4	8.6	45.5	61.8	106.3	123.0	92.8	40.0	8.5
	June	74.2	9.4	46.8	62.6	106.7	123.2	95.7	41.3	8.9
	Sept	73.7	8.5	44.0	60.2	103.0	124.2	97.4	41.4	8.4
	Dec	77.1	8.9	47.9	65.7	111.8	128.7	99.4	43.0	8.9
1998	March	74.3	9.1	48.4	66.1	108.8	121.9	95.2	41.8	8.5
	June	73.2	9.0	47.2	65.1	106.7	119.3	94.5	42.3	8.9
	Sept	74.2	8.9	45.5	62.9	104.6	123.7	99.1	42.7	9.0
	Dec	75.2	8.9	47.4	66.8	109.0	124.1	98.5	42.8	9.2
1999	March	72.2	8.0	45.3	64.5	105.9	117.8	94.6	42.0	8.8
	June	71.0	8.6	45.0	62.5	103.3	116.3	92.8	42.5	9.3
	Sept	71.4	8.1	44.2	61.1	100.2	117.6	97.3	43.5	9.1
	Dec	72.8	8.5	45.7	64.3	105.4	120.1	96.5	43.6	9.2
2000	March	71.9	8.5	45.2	64.6	106.0	117.1	94.5	43.4	9.4
	June	70.2	8.5	44.5	62.5	102.9	114.0	93.1	42.9	9.6
	Sept	69.8	8.4	42.0	59.9	98.8	114.9	96.5	42.9	9.3
	Dec	71.6	8.0	43.6	62.6	104.8	117.4	97.0	43.8	9.4
2001	March	70.7	7.8	43.3	62.7	104.8	114.5	95.0	43.7	9.7
	June	69.2	8.4	42.8	61.0	101.4	111.6	94.0	44.0	9.5
	Sept	69.1	7.7	41.1	57.9	98.4	113.1	97.6	44.2	9.3
	Dec	72.1	8.1	43.5	61.5	105.6	117.9	100.5	45.4	10.0
2002	March	71.3	7.7	43.0	61.5	105.0	116.3	98.5	45.8	9.9
	June	70.1	8.1	43.0	60.6	101.8	114.7	97.2	45.5	10.2
	Sept	71.8	7.7	41.3	57.7	102.0	119.2	103.7	47.6	10.2
	Dec	75.5	8.0	44.2	62.3	108.8	124.8	107.7	49.5	10.7

See notes on first page of table

Table 4.1 continued **Conceptions by age of woman at conception, 1990–2009**

England and Wales

residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
2003	March	73.6	7.8	42.9	61.0	107.2	121.4	104.7	48.6	10.3
	June	72.8	8.3	43.4	60.4	106.1	120.1	103.7	48.1	10.8
	Sept	72.5	7.9	40.6	56.9	104.2	119.6	106.7	49.3	10.5
	Dec	76.0	7.8	42.6	61.4	110.9	126.1	109.9	50.5	11.2
2004	March	76.2	7.8	43.4	63.1	111.4	125.5	109.4	51.1	11.4
	June	73.2	7.7	42.2	60.0	105.7	121.2	105.6	49.8	11.5
	Sept	73.6	7.1	39.2	56.7	104.9	122.7	110.0	50.6	11.1
	Dec	77.7	7.4	42.4	61.4	112.8	130.1	113.3	52.8	11.4
2005	March	75.1	7.6	41.5	60.0	108.7	123.9	109.9	51.9	11.4
	June	74.2	8.0	41.2	59.1	106.5	122.2	108.6	52.0	11.4
	Sept	75.5	7.8	40.6	59.0	105.6	125.7	113.4	52.8	11.6
	Dec	79.3	7.9	42.8	62.4	113.4	131.8	116.9	55.9	11.5
2006	March	78.2	7.1	40.5	60.3	111.0	129.2	116.3	55.7	12.2
	June	76.7	8.2	41.4	60.3	107.8	126.1	113.7	55.3	12.5
	Sept	76.8	7.7	38.8	57.2	104.6	127.5	118.3	56.0	12.1
	Dec	81.4	8.1	42.8	63.0	113.9	135.1	122.8	58.2	12.2
2007	March	80.8	8.1	43.0	63.0	113.2	132.7	121.3	58.4	12.6
	June	79.7	8.7	42.8	62.7	111.2	131.5	119.7	57.2	12.5
	Sept	79.4	8.2	40.1	59.1	107.9	132.7	121.5	58.5	12.6
	Dec	82.1	8.3	42.2	62.3	113.1	137.7	124.1	59.0	12.8
2008	March[P]	81.1	8.1	42.3	62.9	110.8	134.3	123.1	58.6	12.7
	June[P]	78.2	8.1	41.8	60.8	107.6	129.1	116.9	56.7	12.5
	Sept[P]	79.1	7.6	38.8	57.3	106.0	132.5	121.9	58.5	12.7
	Dec[P]	81.1	7.6	40.0	59.5	110.2	136.1	123.4	58.7	12.4
2009	March[1,P]	81.8	7.8	39.5	59.8	110.2	134.9	125.4	60.7	12.9
	June[1,P]	80.2	8.3	40.3	59.4	108.2	131.6	122.3	59.6	13.0
		(c) percentage terminated by abortion								
1990		19.9	50.8	41.1	35.7	22.3	13.5	13.8	23.1	43.2
1991		19.4	51.1	39.9	34.5	22.2	13.4	13.7	22.0	41.6
1992		19.3	48.6	39.1	33.9	22.3	13.9	13.9	22.2	41.5
1993		19.2	49.8	39.2	34.3	22.8	13.9	13.5	21.5	40.2
1994		19.5	50.3	39.8	34.7	23.4	14.3	13.6	21.1	40.9
1995		19.7	47.6	38.7	34.6	24.2	14.8	13.6	20.7	38.0
1996		20.8	49.2	40.0	36.2	25.7	15.6	14.1	21.2	37.6
1997		21.3	49.7	40.6	36.8	26.7	16.4	14.2	21.0	38.0
1998		22.3	52.4	42.0	37.8	27.8	17.1	14.9	21.5	37.9
1999		22.6	52.6	43.0	38.6	28.5	17.5	14.7	21.2	37.0
2000		22.7	54.0	44.2	39.3	29.2	17.7	14.5	20.5	35.4
2001		23.2	55.8	45.7	40.4	29.7	18.4	14.6	20.4	34.6
2002		22.5	55.6	45.3	39.9	28.8	17.9	13.9	19.5	34.6
2003		22.5	57.4	45.7	40.2	29.0	17.9	13.6	18.9	34.7
2004		22.4	57.2	45.6	40.1	28.9	18.2	13.2	18.3	33.0
2005		22.2	57.1	46.3	40.3	28.6	18.0	13.2	17.7	32.8
2006		22.3	59.8	48.4	41.9	28.7	18.0	13.1	17.1	31.8
2007		22.0	61.5	50.0	42.6	28.2	17.5	12.7	16.7	31.1
2008[1,P]		21.8	61.6	49.4	42.4	28.0	17.4	12.9	16.3	30.0
1996	March	21.0	47.2	39.5	36.1	25.5	15.9	14.4	21.8	37.1
	June	21.3	49.2	40.7	36.6	26.5	16.0	14.4	21.8	38.2
	Sept	19.7	50.4	39.1	35.2	24.7	14.9	13.3	20.2	37.3
	Dec	21.1	50.2	40.8	37.0	26.3	15.8	14.2	21.0	37.9
1997	March	21.4	48.4	39.7	36.0	26.6	16.6	14.5	21.0	38.6
	June	21.7	49.5	40.3	36.7	27.1	16.8	14.6	21.9	39.1
	Sept	20.5	48.1	40.6	36.6	25.8	15.8	13.5	20.7	36.4
	Dec	21.6	52.5	41.6	37.6	27.2	16.5	14.3	20.6	37.8
1998	March	22.3	51.4	41.2	37.3	27.7	17.3	15.2	21.7	37.0
	June	22.8	52.7	42.2	38.2	28.4	17.6	15.3	22.2	38.9
	Sept	21.7	52.5	42.2	37.9	27.3	16.6	14.4	21.3	37.6
	Dec	22.2	53.0	42.3	37.7	28.0	17.0	14.7	21.0	38.2
1999	March	22.3	51.4	42.0	38.0	27.9	17.2	14.7	21.6	36.2
	June	23.0	52.9	43.5	38.6	28.6	18.0	15.5	21.5	37.8
	Sept	22.1	52.7	43.1	38.7	28.5	17.2	14.1	20.6	37.3
	Dec	22.8	53.5	43.6	39.1	29.2	17.7	14.7	21.2	36.6
2000	March	22.9	53.8	44.3	39.6	29.6	17.7	14.5	20.4	35.3
	June	23.2	55.1	44.4	39.2	29.7	18.1	15.1	20.9	35.1
	Sept	22.0	53.2	43.8	38.7	28.2	17.4	14.0	19.8	35.4
	Dec	22.8	54.0	44.1	39.8	29.2	17.5	14.4	20.8	35.9

See notes on first page of table

Table 4.1 continued **Conceptions by age of woman at conception, 1990–2009**

England and Wales

residents

Year and quarter		Age of woman at conception								
		All ages	Under 16	Under 18	Under 20	20–24	25–29	30–34	35–39	40 and over
2001	March	23.4	54.4	44.9	40.2	29.8	18.6	14.8	20.7	34.9
	June	23.8	58.8	47.0	41.1	30.3	18.6	15.3	21.0	36.0
	Sept	22.5	55.0	45.7	40.1	29.2	18.1	13.8	19.9	33.5
	Dec	22.9	54.9	45.2	40.0	29.5	18.1	14.4	20.2	34.1
2002	March	22.9	54.3	44.9	40.2	29.4	18.1	14.1	19.8	35.1
	June	22.9	55.6	45.0	39.4	28.9	18.4	14.5	20.1	34.8
	Sept	21.6	56.1	45.0	39.4	27.8	17.3	13.2	18.7	34.2
	Dec	22.6	56.4	46.3	40.7	29.0	17.8	13.9	19.4	34.5
2003	March	22.8	58.9	46.1	40.2	29.5	17.9	13.8	19.7	34.5
	June	23.1	58.3	46.2	40.9	29.3	18.4	14.2	19.2	36.1
	Sept	21.6	56.9	45.3	39.5	28.0	17.1	13.0	18.0	33.8
	Dec	22.5	55.7	45.0	40.3	29.0	18.1	13.5	18.5	34.5
2004	March	22.7	58.2	45.7	40.2	29.4	18.5	13.4	18.2	32.9
	June	23.0	57.2	46.3	40.8	29.2	18.6	13.7	19.2	33.5
	Sept	21.9	56.8	45.8	40.0	28.4	17.9	12.8	17.8	33.0
	Dec	22.0	56.3	44.5	39.3	28.6	17.8	13.0	18.2	32.5
2005	March	22.5	57.5	47.3	41.1	29.2	18.1	13.1	18.0	32.6
	June	22.7	57.0	45.8	40.3	28.9	18.6	13.9	17.8	33.8
	Sept	21.4	56.2	45.3	39.0	27.5	17.5	12.6	17.2	32.1
	Dec	22.2	57.5	46.9	40.6	28.7	17.8	13.1	17.7	32.7
2006	March	22.5	59.0	47.7	41.6	29.1	18.4	13.0	17.5	31.1
	June	23.1	59.5	49.0	42.5	29.6	18.8	13.9	17.8	31.6
	Sept	21.5	60.4	48.0	41.3	27.7	17.5	12.7	16.3	32.8
	Dec	22.0	60.2	49.1	42.0	28.3	17.4	12.8	16.9	31.7
2007	March	22.7	62.6	50.7	43.2	29.5	18.3	13.0	16.9	31.1
	June	22.5	61.9	50.3	43.1	28.6	18.0	12.8	16.9	31.5
	Sept	21.0	57.9	48.5	41.3	26.9	16.5	12.3	16.0	30.8
	Dec	21.8	63.6	50.4	42.6	28.0	17.2	12.5	16.8	30.8
2008	March[P]	22.6	62.2	50.6	43.8	28.9	17.9	13.1	16.8	31.2
	June[P]	22.4	61.5	49.0	42.3	28.4	18.2	13.2	16.8	29.9
	Sept[P]	21.2	61.7	48.9	41.7	27.4	16.9	12.6	15.6	29.6
	Dec[P]	21.2	60.7	49.0	41.6	27.4	16.6	12.5	16.0	29.1
2009	March[1,P]	21.4	59.0	48.9	41.8	27.7	16.8	12.8	16.0	29.3
	June[1,P]	21.5	60.1	48.8	42.1	27.6	17.2	12.8	16.2	29.1

See notes on first page of table

Table 4.2 Abortions: residents and non-residents; age and gestation (residents only)

England and Wales

Numbers (thousands) and rates; and percentages for gestation weeks

Year and quarter	All ages			All women (residents)										
				Age group							Gestation weeks (percentages)			
	All[1] women	Residents[1]	Non-[1] residents	Under 16	16–19	20–24	25–29	30–34	35–44	45 and over	Under 9	9–12	13–19	20 and over
	Numbers (thousands)										Percentages			
1971	126.8	94.6	32.2	2.3	18.2	24.5	17.3	14.2	15.9	0.5	16.6	57.9	21.8	1.0
1976	129.7	101.9	27.8	3.4	24.0	23.6	19.3	14.6	14.7	0.5	24.8	55.8	15.0	1.1
1981	162.5	128.6	33.9	3.5	31.4	34.3	21.9	18.7	17.6	0.6	31.0	53.4	13.5	1.3
1986	172.3	147.6	24.7	3.9	33.8	45.3	28.7	18.0	17.5	0.4	33.4	53.8	11.5	1.4
1991	179.5	167.4	12.1	3.2	31.1	52.7	38.6	23.4	17.9	0.4	35.2	52.9	10.6	1.2
1996	177.5	167.9	9.6	3.6	28.8	46.4	39.3	28.2	21.1	0.4	40.0	48.7	10.1	1.3
1997	179.7	170.1	9.6	3.4	29.9	45.0	40.2	28.9	22.3	0.5	41.2	47.9	9.6	1.2
1998	187.4	177.9	9.5	3.8	33.2	45.8	40.4	30.4	23.8	0.5	41.4	47.6	9.7	1.3
1999	183.2	173.7	9.5	3.6	32.8	45.0	38.5	29.1	24.1	0.5	42.5	46.5	9.5	1.4
2000	185.4	175.5	9.8	3.7	33.2	47.1	37.9	28.7	24.4	0.5	43.2	45.0	10.3	1.5
2001	186.3	176.4	9.9	3.7	33.4	48.3	36.5	28.8	25.2	0.5	42.8	45.0	10.6	1.6
2002	185.4	175.9	9.5	3.7	33.0	48.4	35.8	28.5	26.0	0.5	42.2	45.2	11.0	1.6
2003	190.7	181.6	9.1	4.0	34.2	51.1	36.0	28.7	26.9	0.5	43.6	43.7	11.1	1.6
2004	194.5	185.7	8.8	3.8	35.5	52.8	37.8	28.1	27.3	0.5	46.2	41.5	10.8	1.6
2005	194.4	186.4	7.9	3.8	35.3	53.3	38.3	27.8	27.2	0.6	53.6	35.7	9.3	1.4
2006	201.2	193.7	7.4	4.0	37.3	55.3	40.4	28.2	27.9	0.7	54.9	34.3	9.2	1.5
2007	205.6	198.5	7.1	4.4	39.6	57.0	41.7	27.3	27.9	0.7	57.9	31.9	8.8	1.5
2008	202.2	195.3	6.9	4.1	38.6	56.2	41.9	27.0	26.9	0.7	61.6	28.7	8.2	1.5
2009	195.7	189.1	6.6	3.8	36.2	54.7	40.6	26.7	26.2	0.7	64.3	26.3	8.0	1.5
2005 March	50.1	47.9	2.1	0.9	9.1	13.9	9.7	7.2	7.0	0.1	47.2	40.4	11.0	1.4
June	50.1	48.0	2.1	1.0	9.2	13.9	9.9	7.1	6.9	0.1	53.8	35.6	9.2	1.4
Sept	47.0	45.1	1.9	1.0	8.5	12.7	9.3	6.9	6.7	0.1	56.5	33.6	8.5	1.3
Dec	47.2	45.3	1.8	0.9	8.6	12.9	9.5	6.7	6.7	0.1	57.2	32.9	8.3	1.5
2006 March	52.4	50.4	2.0	1.0	9.8	14.6	10.4	7.2	7.3	0.2	50.6	37.3	10.5	1.6
June	51.3	49.3	2.0	1.0	9.4	14.2	10.3	7.2	7.1	0.2	53.6	35.3	9.4	1.7
Sept	49.8	47.9	1.8	1.0	9.2	13.6	10.0	7.0	6.9	0.2	56.5	33.0	9.0	1.5
Dec	47.7	46.0	1.6	1.0	8.8	13.0	9.6	6.7	6.7	0.1	59.5	31.3	7.9	1.3
2007 March	55.3	53.3	1.9	1.2	10.8	15.4	11.1	7.3	7.4	0.2	54.1	35.0	9.4	1.6
June	51.2	49.4	1.8	1.1	9.9	14.3	10.3	6.7	6.8	0.2	56.6	32.6	9.2	1.5
Sept	49.9	48.2	1.7	1.0	9.5	13.5	10.2	6.6	7.0	0.2	58.6	31.2	8.8	1.4
Dec	49.2	47.6	1.6	1.1	9.4	13.7	10.0	6.6	6.7	0.2	62.7	28.3	7.6	1.4
2008 March	53.4	51.6	1.8	1.1	10.5	14.8	10.8	7.0	7.2	0.2	58.4	31.0	9.0	1.6
June	52.5	50.8	1.8	1.1	10.1	14.6	10.9	6.9	7.0	0.2	60.8	29.5	8.3	1.4
Sept	48.7	47.0	1.7	1.0	9.2	13.4	10.3	6.5	6.5	0.2	62.9	27.6	8.0	1.4
Dec	47.5	45.9	1.6	1.0	8.8	13.3	9.9	6.5	6.2	0.2	64.8	26.2	7.6	1.4
2009 March	51.8	50.1	1.7	1.1	9.8	14.7	10.6	6.9	6.8	0.2	60.9	28.5	8.9	1.7
June	50.0	48.3	1.7	0.9	9.2	14.1	10.4	6.8	6.6	0.2	64.1	26.8	7.8	1.3
Sept	47.7	46.0	1.7	1.0	8.8	13.1	10.0	6.5	6.5	0.2	64.7	25.9	7.9	1.5
Dec	46.2	44.7	1.5	0.8	8.4	12.9	9.6	6.5	6.3	0.2	67.8	23.7	7.1	1.4
2010 March[P]	51.8	50.0	1.8	1.0	9.5	14.7	10.7	7.1	6.7	0.2	64.2	26.3	8.0	1.5
Rates (per thousand women residents)														
	ASR[2] (women 15–44)	Crude rate[3] (women 15–44)												
1971	9.9	10.1	:	2.3	13.9	13.1	10.7	10.0	5.6	0.3				
1976	10.2	10.5	:	2.9	16.9	14.2	10.4	9.2	5.3	0.3				
1981	11.9	12.4	:	3.0	19.4	18.6	13.1	10.1	5.9	0.4				
1986	13.0	13.5	:	3.7	22.0	21.9	15.5	10.8	5.1	0.3				
1991	15.0	15.2	:	3.8	24.0	27.1	18.5	12.6	5.1	0.3				
1996	16.0	15.7	:	3.9	24.2	28.4	19.9	13.6	6.0	0.2				
1997	16.3	15.9	:	3.7	24.4	28.8	20.7	13.8	6.2	0.3				
1998	17.1	16.6	:	4.0	26.8	30.2	21.2	14.6	6.5	0.3				
1999	16.8	16.2	:	3.8	26.3	29.7	20.8	14.1	6.4	0.3				
2000	17.0	16.3	:	3.9	26.9	30.7	20.9	14.1	6.3	0.3				

Notes: Rates for under 16 and 45 and over are based on female populations aged 13–15 and 45–49 respectively.
Figures may not sum due to rounding.

1 Includes cases with not stated age and/or gestation week.

2 Rates for all women residents age-standardised to the European population for ages 15–44.

3 Includes incomplete forms that have been returned to practitioners.

P Provisional.

Source: Department of Health.

Table 4.2 continued **Abortions: residents and non-residents; age and gestation (residents only)**

England and Wales

Numbers (thousands) and rates; and percentages for gestation weeks

Year and quarter		All ages			All women (residents)										
					Age group							Gestation weeks (percentages)			
		All[1] women	Residents[1]	Non-[1] residents	Under 16	16–19	20–24	25–29	30–34	35–44	45 and over	Under 9	9–12	13–19	20 and over
2001		17.0	16.2	:	3.7	26.6	30.6	20.9	14.2	6.4	0.3				
2002		17.0	16.1	:	3.7	25.8	30.1	21.4	14.2	6.5	0.3				
2003		17.5	16.6	:	3.9	26.1	31.2	22.1	14.6	6.6	0.3				
2004		17.8	16.9	:	3.7	26.5	31.9	23.3	14.7	6.7	0.3				
2005		17.8	17.0	:	3.7	26.3	32.0	23.6	14.5	6.6	0.3				
2006		18.3	17.5	:	3.9	27.3	32.5	24.3	15.1	6.8	0.4				
2007		18.6	17.9	:	4.4	28.9	32.6	24.3	15 1	6.7	0.4				
2008		18.2	17.6	:	4.2	27.8	31.6	23.9	15.6	6.5	0.4				
2009		17.5	17.0	:	4.0	26.1	30.0	22.8	15.7	6.4	0.4				
2005	March	18.4	17.5	.	3.7	27.0	33.5	23.8	15.2	6.8	0.3				
	June	18.4	17.5	:	3.8	27.2	33.3	24.1	15.3	6.7	0.3				
	Sept	17.3	16.4	:	3.8	25.2	30.5	22.6	14.8	6.5	0.3				
	Dec	17.4	16.5	:	3.6	25.4	30.9	23.0	14.4	6.5	0.3				
2006	March	19.3	18.4	:	3.9	29.0	34.8	25.0	15.9	7.0	0.3				
	June	18.9	18.0	:	3.9	27.8	33.8	24.7	16.0	6.8	0.4				
	Sept	18.3	17.5	:	4.0	27.0	32.2	23.9	15.9	6.7	0.4				
	Dec	17.5	16.8	:	4.0	25.9	30.8	22.8	15.3	6.5	0.3				
2007	March	20.0	19.2	:	4.7	31.4	35.3	25.6	16.7	7.2	0.4				
	June	18.5	17.8	:	4.4	28.8	32.7	23.7	15.5	6.6	0.4				
	Sept	18.0	17.4	:	4.2	27.7	30.8	23.3	15.4	6.8	0.4				
	Dec	17.8	17.2	:	4.4	27.2	31.1	22.7	15.3	6.5	0.4				
2008	March	19.1	18.5	:	4.7	30.4	32.6	24.1	16.3	7.0	0.4				
	June	18.7	18.2	:	4.4	29.3	32.1	24.1	16.0	6.9	0.3				
	Sept	17.3	16.9	:	4.0	26.6	29.3	22.6	15.3	6.3	0.4				
	Dec	16.9	16.4	:	4.1	25.4	29.0	21.5	15.2	6.1	0.3				
2009	March	18.5	18.1	:	4.4	28.5	31.9	23.5	16.3	6.7	0.4				
	June	17.8	17.4	:	4.0	26.7	30.4	22.9	16.0	6.6	0.3				
	Sept	16.9	16.6	:	4.1	25.6	28.1	21.9	15.3	6.4	0.4				
	Dec	16.4	16.1	:	3.5	24.4	27.6	21.0	15.2	6.3	0.4				
2010	March[P]	18.4	18.0	:	4.1	27.8	31.5	23.1	16.6	6.8	0.4				

See notes on first page of table

Table 5.1 Period expectation of life at birth and selected ages, UK and constituent countries

Constituent countries of the United Kingdom

Years

Year	Males: At birth	Males: At age 5	20	30	50	60	70	80	Year	Females: At birth	Females: At age 5	20	30	50	60	70	80
United Kingdom																	
1981	70.8	66.9	52.3	42.7	24.1	16.3	10.1	5.8	1981	76.8	72.7	57.9	48.2	29.2	20.8	13.3	7.5
1986	71.9	67.8	53.2	43.6	24.9	16.8	10.5	6.0	1986	77.7	73.4	58.6	48.8	29.8	21.2	13.8	7.8
1991	73.2	68.9	54.2	44.7	26.0	17.7	11.1	6.4	1991	78.7	74.3	59.5	49.7	30.6	21.9	14.3	8.2
1996	74.2	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1996	79.4	74.9	60.1	50.3	31.2	22.3	14.5	8.3
2000	75.3	70.9	56.1	46.6	28.0	19.5	12.3	7.0	2000	80.1	75.6	60.8	51.0	31.9	23.0	15.0	8.6
2001	75.6	71.2	56.4	46.9	28.2	19.7	12.5	7.1	2001	80.4	75.8	61.0	51.2	32.1	23.2	15.1	8.7
2002	75.9	71.4	56.6	47.1	28.5	19.9	12.6	7.1	2002	80.5	75.9	61.1	51.3	32.2	23.3	15.2	8.7
2003	76.2	71.7	56.9	47.4	28.7	20.2	12.8	7.3	2003	80.7	76.1	61.3	51.5	32.4	23.4	15.3	8.7
2004	76.5	72.0	57.3	47.7	29.0	20.5	13.1	7.4	2004	80.9	76.4	61.5	51.7	32.6	23.6	15.5	8.8
2005	76.9	72.4	57.6	48.0	29.4	20.8	13.4	7.6	2005	81.3	76.7	61.9	52.0	32.9	23.9	15.8	9.0
2006	77.2	72.7	57.9	48.3	29.6	21.1	13.6	7.7	2006	81.5	76.9	62.0	52.2	33.1	24.1	15.9	9.1
2007	77.4	72.9	58.1	48.5	29.9	21.3	13.8	7.8	2007	81.6	77.1	62.2	52.4	33.2	24.3	16.1	9.2
England and Wales																	
1981	71.0	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.1	48.3	29.4	20.9	13.4	7.5
1986	72.1	68.0	53.4	43.8	25.0	16.9	10.5	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.8	26.1	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.3	45.8	27.1	18.6	11.6	6.6	1996	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
2000	75.6	71.1	56.4	46.8	28.1	19.6	12.3	7.0	2000	80.3	75.8	60.9	51.1	32.0	23.1	15.1	8.6
2001	75.9	71.4	56.7	47.1	28.4	19.9	12.5	7.1	2001	80.5	76.0	61.2	51.3	32.2	23.3	15.2	8.7
2002	76.1	71.6	56.9	47.3	28.6	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.3	23.4	15.3	8.7
2003	76.4	71.9	57.2	47.6	28.9	20.3	12.9	7.3	2003	80.9	76.3	61.5	51.7	32.5	23.6	15.4	8.8
2004	76.8	72.3	57.5	47.9	29.2	20.6	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.7	23.8	15.6	8.9
2005	77.2	72.7	57.9	48.3	29.6	21.0	13.5	7.6	2005	81.5	76.9	62.0	52.2	33.1	24.1	15.9	9.1
2006	77.4	72.9	58.2	48.5	29.8	21.2	13.7	7.7	2006	81.7	77.1	62.2	52.4	33.2	24.3	16.0	9.2
2007	77.7	73.2	58.4	48.8	30.0	21.4	13.9	7.8	2007	81.8	77.3	62.4	52.6	33.4	24.4	16.2	9.2
England																	
1981	71.1	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.2	48.4	29.4	20.9	13.4	7.5
1986	72.2	68.1	53.4	43.8	25.1	17.0	10.6	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.9	26.2	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.4	45.8	27.1	18.7	11.7	6.6	1996	79.6	75.1	60.3	50.4	31.3	22.5	14.6	8.4
2000	75.6	71.2	56.4	46.9	28.2	19.6	12.4	7.0	2000	80.3	75.8	61.0	51.2	32.0	23.1	15.1	8.6
2001	75.9	71.4	56.7	47.1	28.5	19.9	12.6	7.1	2001	80.6	76.0	61.2	51.4	32.2	23.3	15.2	8.7
2002	76.1	71.7	56.9	47.4	28.7	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.4	23.4	15.3	8.7
2003	76.5	72.0	57.2	47.6	28.9	20.4	12.9	7.3	2003	80.9	76.4	61.5	51.7	32.6	23.6	15.4	8.8
2004	76.8	72.3	57.6	48.0	29.2	20.7	13.2	7.4	2004	81.1	76.6	61.7	51.9	32.8	23.8	15.6	8.9
2005	77.2	72.7	57.9	48.3	29.6	21.0	13.5	7.6	2005	81.5	76.9	62.1	52.3	33.1	24.1	15.9	9.1
2006	77.5	73.0	58.2	48.6	29.8	21.2	13.7	7.7	2006	81.7	77.1	62.3	52.4	33.3	24.3	16.0	9.2
2007	77.7	73.2	58.4	48.8	30.1	21.5	13.9	7.9	2007	81.9	77.3	62.4	52.6	33.4	24.4	16.2	9.2
Wales																	
1981	70.4	66.5	51.9	42.2	23.6	15.8	9.7	5.6	1981	76.4	72.3	57.5	47.7	28.9	20.5	13.1	7.4
1986	71.6	67.5	52.8	43.2	24.6	16.6	10.3	6.0	1986	77.5	73.3	58.5	48.7	29.7	21.1	13.7	7.8
1991	73.1	68.8	54.1	44.6	25.8	17.6	11.0	6.4	1991	78.8	74.3	59.5	49.7	30.6	21.8	14.3	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.3	6.4	1996	79.1	74.6	59.7	49.9	30.9	22.1	14.4	8.3
2000	74.8	70.4	55.7	46.2	27.6	19.1	12.0	6.8	2000	79.7	75.2	60.4	50.6	31.5	22.6	14.7	8.4
2001	75.3	70.8	56.0	46.6	28.0	19.5	12.3	7.0	2001	80.0	75.4	60.6	50.8	31.7	22.8	14.9	8.5
2002	75.5	70.9	56.2	46.8	28.2	19.7	12.4	7.1	2002	80.1	75.5	60.7	50.9	31.8	22.9	15.0	8.6
2003	75.8	71.2	56.5	47.0	28.4	19.9	12.6	7.2	2003	80.3	75.7	60.9	51.1	32.0	23.1	15.1	8.6
2004	76.1	71.6	56.8	47.3	28.7	20.2	12.8	7.3	2004	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.7
2005	76.6	72.0	57.3	47.7	29.2	20.6	13.2	7.6	2005	80.9	76.3	61.5	51.6	32.6	23.7	15.5	8.9
2006	76.7	72.1	57.4	47.8	29.3	20.8	13.4	7.6	2006	81.1	76.5	61.6	51.8	32.7	23.8	15.7	9.0
2007	76.9	72.3	57.5	48.0	29.5	21.0	13.5	7.7	2007	81.2	76.6	61.8	51.9	32.9	23.9	15.9	9.1
Scotland																	
1981	69.1	65.2	50.6	41.1	22.9	15.4	9.6	5.5	1981	75.3	71.2	56.4	46.7	27.9	19.7	12.7	7.2
1986	70.2	66.0	51.4	41.9	23.5	15.8	9.9	5.7	1986	76.2	71.9	57.1	47.3	28.4	20.1	13.0	7.5
1991	71.4	67.1	52.5	43.0	24.6	16.6	10.4	6.1	1991	77.1	72.7	57.9	48.1	29.2	20.7	13.5	7.9
1996	72.2	67.8	53.1	43.7	25.3	17.3	10.9	6.3	1996	77.9	73.3	58.5	48.8	29.8	21.2	13.8	8.0
2000	73.1	68.6	53.9	44.6	26.3	18.2	11.5	6.6	2000	78.6	74.0	59.2	49.4	30.5	21.8	14.1	8.1
2001	73.3	68.8	54.2	44.8	26.6	18.4	11.7	6.8	2001	78.8	74.2	59.4	49.6	30.7	22.0	14.3	8.2
2002	73.5	69.0	54.3	45.0	26.7	18.6	11.8	6.8	2002	78.9	74.3	59.5	49.7	30.8	22.1	14.4	8.2
2003	73.8	69.3	54.6	45.2	27.0	18.8	12.0	6.9	2003	79.1	74.5	59.7	49.9	30.9	22.2	14.5	8.3
2004	74.2	69.7	55.0	45.6	27.3	19.1	12.2	7.0	2004	79.3	74.7	59.9	50.1	31.1	22.4	14.7	8.4
2005	74.6	70.1	55.4	45.9	27.7	19.4	12.5	7.2	2005	79.6	75.0	60.2	50.4	31.4	22.7	14.9	8.5
2006	74.8	70.3	55.5	46.1	27.9	19.6	12.6	7.2	2006	79.7	75.1	60.3	50.5	31.5	22.8	15.0	8.6
2007	75.0	70.4	55.7	46.3	28.1	19.9	12.8	7.3	2007	79.9	75.2	60.4	50.6	31.7	22.9	15.1	8.6
Northern Ireland																	
1981	69.2	65.4	50.9	41.5	23.2	15.6	9.7	5.8	1981	75.5	71.6	56.8	47.1	28.3	20.0	12.8	7.3
1986	70.9	66.8	52.2	42.7	24.2	16.4	10.4	6.2	1986	77.1	72.9	58.1	48.3	29.3	20.8	13.4	7.8
1991	72.6	68.2	53.6	44.1	25.5	17.3	11.0	6.4	1991	78.4	74.0	59.2	49.4	30.3	21.6	14.2	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.4	6.6	1996	79.2	74.7	59.9	50.0	30.9	22.1	14.4	8.4
2000	74.8	70.4	55.7	46.2	27.6	19.1	11.9	6.6	2000	79.8	75.2	60.4	50.6	31.5	22.6	14.6	8.2
2001	75.2	70.7	56.1	46.6	27.9	19.4	12.3	6.9	2001	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.4
2002	75.6	71.1	56.4	46.9	28.2	19.7	12.4	7.0	2002	80.4	75.9	61.0	51.2	32.0	23.1	15.1	8.5
2003	75.8	71.4	56.7	47.1	28.4	19.9	12.6	7.2	2003	80.6	76.0	61.1	51.3	32.2	23.3	15.2	8.6
2004	76.0	71.6	56.9	47.4	28.7	20.2	12.8	7.3	2004	80.8	76.3	61.4	51.6	32.5	23.5	15.4	8.7
2005	76.1	71.6	57.0	47.5	28.9	20.4	13.0	7.3	2005	81.0	76.4	61.6	51.8	32.7	23.7	15.6	8.8
2006	76.2	71.7	57.1	47.6	29.1	20.6	13.1	7.3	2006	81.2	76.6	61.8	52.0	32.8	23.9	15.7	8.9
2007	76.3	71.8	57.2	47.7	29.2	20.7	13.2	7.3	2007	81.2	76.6	61.8	52.0	32.9	24.0	15.7	8.9

Note: All figures are based on a three-year period, so that for instance 2003 represents 2002–2004. The population estimates used to calculate these life expectancies are the latest available at time of publication of the 2006–2008 interim life tables (21 October 2009). All figures are based on death registration. A minor methodological change was introducted for the 2006 figures to ensure consistency with population estimates of the very elderly for England and Wales. The effect on calculated life expectancies is marginal.

Table 6.1 Deaths: age and sex

England and Wales

Numbers (thousands) and rates

Year and quarter	All ages	Age group												
		Under 1[1]	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and over
Numbers (thousands)														
Males														
1976	300.1	4.88	0.88	0.68	0.64	1.66	1.66	3.24	5.93	20.4	52.0	98.7	80.3	29.0
1981	289.0	4.12	0.65	0.45	0.57	1.73	1.58	3.18	5.54	16.9	46.9	92.2	86.8	28.5
1986	287.9	3.72	0.57	0.33	0.38	1.43	1.75	3.10	5.77	14.4	43.6	84.4	96.2	32.2
1991	277.6	2.97	0.55	0.34	0.35	1.21	1.76	3.69	6.16	13.3	34.9	77.2	95.8	39.3
1996	268.7	2.27	0.44	0.24	0.29	0.93	1.41	4.06	5.84	13.6	30.1	71.0	90.7	47.8
2001	252.4	1.81	0.32	0.19	0.28	0.88	1.27	3.63	6.07	13.3	27.5	57.5	87.0	52.7
2002	254.4	1.83	0.33	0.20	0.29	0.91	1.31	3.67	6.26	13.0	27.8	56.6	88.5	53.7
2003	254.4	1.83	0.31	0.20	0.26	0.85	1.35	3.48	6.44	12.7	28.3	55.1	89.6	54.1
2004	245.2	1.81	0.30	0.17	0.25	0.83	1.26	3.28	6.36	12.4	27.1	52.7	87.4	51.3
2005	243.9	1.88	0.30	0.17	0.27	0.86	1.22	3.15	6.36	12.2	27.3	51.0	84.7	54.5
2006	240.9	1.86	0.29	0.19	0.26	0.84	1.21	3.13	6.32	12.3	27.6	48.9	81.9	56.2
2007	240.8	1.89	0.34	0.18	0.23	0.80	1.22	3.14	6.26	11.9	27.5	47.8	80.6	58.9
2008	243.0	1.92	0.28	0.18	0.19	0.78	1.26	3.09	6.42	12.3	27.1	47.9	79.8	61.9
2009	238.1	1.86	0.25	0.15	0.20	0.78	1.12	2.97	6.47	12.0	26.6	46.7	77.1	61.9
Females														
1976	298.5	3.46	0.59	0.45	0.42	0.62	0.67	1.94	4.04	12.8	29.6	67.1	104.7	72.1
1981	288.9	2.90	0.53	0.30	0.37	0.65	0.64	1.82	3.74	10.5	27.2	62.8	103.6	73.9
1986	293.3	2.59	0.49	0.25	0.27	0.56	0.67	1.65	3.83	8.8	25.8	58.4	106.5	83.6
1991	292.5	2.19	0.44	0.25	0.22	0.46	0.64	1.73	3.70	8.4	21.3	54.2	103.3	95.7
1996	291.5	1.69	0.32	0.18	0.20	0.43	0.51	1.85	3.66	8.9	18.2	50.2	96.7	108.7
2001	277.9	1.43	0.27	0.19	0.18	0.38	0.47	1.59	3.77	8.9	17.6	40.5	88.8	113.9
2002	281.0	1.34	0.24	0.16	0.20	0.39	0.47	1.60	3.77	8.7	17.8	39.6	90.2	116.4
2003	284.7	1.48	0.28	0.16	0.21	0.37	0.49	1.64	3.88	8.6	18.0	39.0	92.7	118.0
2004	269.0	1.46	0.25	0.14	0.17	0.41	0.49	1.54	3.86	8.1	17.6	37.0	88.4	109.5
2005	269.1	1.37	0.22	0.13	0.19	0.38	0.48	1.48	3.81	8.2	17.8	35.9	86.3	112.9
2006	261.7	1.51	0.27	0.14	0.17	0.38	0.44	1.38	3.80	8.1	17.9	34.5	81.2	111.9
2007	263.3	1.46	0.24	0.12	0.19	0.36	0.45	1.36	3.79	8.1	18.2	33.9	79.4	115.8
2008	266.1	1.45	0.27	0.14	0.14	0.35	0.46	1.45	3.81	8.3	18.2	33.9	77.8	119.8
2009	253.3	1.46	0.24	0.13	0.17	0.33	0.43	1.40	3.65	8.0	17.7	32.7	72.9	114.1
Rates (deaths per 1,000 population in each age group)														
Males														
1976	12.5	16.2	0.65	0.34	0.31	0.88	0.96	0.92	2.09	6.97	19.6	50.3	116.4	243.2
1981	12.0	12.6	0.53	0.27	0.29	0.82	0.83	0.89	1.83	6.11	17.7	45.6	105.2	226.5
1986	11.8	11.0	0.44	0.21	0.23	0.72	0.83	0.88	1.68	5.27	16.6	42.8	101.2	215.4
1991	11.2	8.3	0.40	0.21	0.23	0.72	0.89	0.94	1.76	4.56	13.9	38.1	93.1	205.6
1996	10.7	6.8	0.32	0.14	0.18	0.60	0.85	1.01	1.67	4.06	11.9	34.5	85.0	198.8
2001	9.9	5.9	0.25	0.11	0.16	0.53	0.80	0.97	1.56	3.89	10.0	28.0	74.0	186.4
2002	9.9	6.0	0.26	0.12	0.16	0.53	0.82	1.00	1.58	3.89	9.7	27.4	73.6	188.1
2003	9.8	5.7	0.25	0.12	0.15	0.49	0.82	0.97	1.61	3.82	9.6	26.4	72.9	191.1
2004	9.4	5.5	0.25	0.11	0.14	0.47	0.73	0.93	1.58	3.72	9.0	25.1	70.0	176.0
2005	9.3	5.7	0.24	0.10	0.16	0.48	0.69	0.89	1.56	3.61	8.9	24.1	67.4	172.1
2006	9.1	5.4	0.23	0.12	0.15	0.46	0.67	0.89	1.55	3.59	8.8	23.2	64.6	163.4
2007	9.1	5.3	0.26	0.12	0.13	0.43	0.65	0.89	1.54	3.42	8.7	22.5	62.8	161.0
2008	9.1	5.3	0.21	0.12	0.11	0.43	0.65	0.87	1.59	3.45	8.6	22.0	61.4	161.4
2009	8.8	5.1	0.18	0.10	0.12	0.43	0.58	0.83	1.63	3.29	8.4	21.0	58.5	155.0

Notes: Figures represent the numbers of deaths registered in each year up to 1992 and the numbers of deaths occurring in each year from 1993 to 2001.
From 2002 onwards figures relate to the numbers of deaths registered in each year.
Death rates for 2009 have been updated using the 2009 population estimates published on 24 June 2010.
Death rates for 2002 to 2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010. Numbers of deaths by age group may not sum to all ages due to rounding.

1 Rates per 1,000 live births.

2 Death rates for 2010 are based on the 2008-based population projections for 2010.

P Provisional.

Source: Office for National Statistics.

Table 6.1 continued Deaths: age and sex

England and Wales

Numbers (thousands) and rates

Year and quarter	All ages	Age group												
		Under 1[1]	1–4	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65–74	75–84	85 and over
2007 March	10.0	5.3	0.28	0.12	0.14	0.47	0.65	0.92	1.55	3.68	9.2	24.4	69.9	184.3
June	8.8	5.8	0.26	0.12	0.14	0.44	0.65	0.90	1.50	3.39	8.6	22.1	60.7	152.3
Sept	8.2	5.1	0.22	0.09	0.13	0.40	0.61	0.88	1.49	3.18	8.1	20.7	57.1	140.5
Dec	9.3	5.2	0.28	0.13	0.12	0.43	0.69	0.88	1.61	3.45	9.0	22.8	63.6	167.3
2008 March	9.7	5.4	0.21	0.12	0.11	0.37	0.59	0.84	1.57	3.66	9.0	23.4	65.7	177.7
June	8.9	5.3	0.22	0.12	0.12	0.45	0.61	0.87	1.59	3.40	8.5	21.7	60.0	155.2
Sept	8.2	5.1	0.18	0.13	0.10	0.44	0.70	0.88	1.57	3.27	8.1	20.4	55.0	139.0
Dec	9.5	5.4	0.25	0.09	0.12	0.46	0.70	0.89	1.63	3.48	8.6	22.7	64.7	173.7
2009 March	9.9	5.4	0.18	0.06	0.13	0.43	0.57	0.82	1.61	3.43	9.0	22.9	67.1	182.7
June	8.4	5.3	0.18	0.10	0.10	0.41	0.56	0.79	1.58	3.12	8.2	20.3	55.6	144.3
Sept	8.0	5.0	0.16	0.08	0.10	0.39	0.55	0.81	1.57	3.16	7.9	19.4	52.8	134.8
Dec	9.0	4.8	0.20	0.14	0.15	0.49	0.65	0.88	1.74	3.47	8.5	21.4	58.6	158.7
2010[2] March[P]	9.6	4.9	0.21	0.12	0.10	0.31	0.54	0.77	1.58	3.37	8.7	22.0	62.1	173.0
Females														
1976	11.8	12.2	0.46	0.24	0.21	0.35	0.40	0.56	1.46	4.30	10.1	26.0	74.6	196.6
1981	11.3	9.4	0.46	0.19	0.19	0.32	0.35	0.52	1.26	3.80	9.5	24.1	66.2	178.2
1986	11.4	8.0	0.40	0.17	0.17	0.29	0.33	0.47	1.12	3.24	9.2	23.4	62.5	169.4
1991	11.2	6.4	0.33	0.16	0.15	0.29	0.33	0.44	1.05	2.87	8.2	21.8	58.7	161.6
1996	11.0	5.3	0.25	0.10	0.12	0.29	0.31	0.46	1.04	2.63	7.1	20.6	55.8	158.9
2001	10.4	4.9	0.22	0.12	0.11	0.24	0.30	0.42	0.96	2.57	6.3	17.4	50.1	155.0
2002	10.5	4.6	0.20	0.10	0.12	0.24	0.29	0.43	0.94	2.54	6.0	17.0	50.5	159.6
2003	10.6	4.9	0.24	0.10	0.12	0.22	0.30	0.45	0.96	2.52	5.9	16.7	51.3	165.7
2004	9.9	4.7	0.22	0.09	0.10	0.24	0.30	0.43	0.94	2.40	5.7	15.8	48.7	154.2
2005	9.9	4.3	0.19	0.09	0.12	0.22	0.28	0.42	0.92	2.39	5.6	15.3	48.1	152.2
2006	9.6	4.6	0.22	0.09	0.10	0.22	0.25	0.39	0.92	2.33	5.6	14.8	45.7	143.8
2007	9.6	4.3	0.19	0.08	0.12	0.21	0.25	0.39	0.92	2.27	5.6	14.5	44.9	143.6
2008	9.6	4.2	0.21	0.09	0.09	0.20	0.25	0.41	0.93	2.28	5.5	14.2	44.2	145.5
2009	9.1	4.2	0.18	0.09	0.11	0.19	0.23	0.40	0.91	2.15	5.4	13.4	41.4	136.2
2007 March	10.9	4.5	0.24	0.07	0.12	0.27	0.27	0.38	0.97	2.31	5.9	16.3	51.7	166.9
June	9.2	4.6	0.21	0.10	0.13	0.18	0.22	0.44	0.86	2.31	5.5	14.1	42.8	135.6
Sept	8.5	4.1	0.14	0.06	0.11	0.18	0.28	0.36	0.87	2.22	5.2	12.9	39.9	124.3
Dec	9.8	4.2	0.16	0.10	0.12	0.20	0.25	0.38	0.96	2.25	5.7	14.7	45.4	147.9
2008 March	10.4	4.5	0.20	0.07	0.09	0.22	0.23	0.42	0.93	2.34	5.6	15.0	48.7	160.7
June	9.3	3.6	0.20	0.11	0.10	0.16	0.28	0.41	0.92	2.29	5.5	13.8	42.8	139.7
Sept	8.5	4.4	0.20	0.09	0.08	0.20	0.24	0.43	0.91	2.17	5.2	13.0	38.9	123.4
Dec	10.3	4.3	0.25	0.09	0.08	0.23	0.26	0.40	0.97	2.32	5.8	15.0	46.4	158.4
2009 March	10.6	4.3	0.21	0.09	0.10	0.18	0.24	0.42	0.96	2.25	5.9	14.8	48.5	166.0
June	8.5	4.4	0.17	0.09	0.07	0.19	0.20	0.39	0.85	2.08	5.1	12.9	39.1	124.7
Sept	8.0	3.8	0.17	0.09	0.09	0.17	0.22	0.37	0.85	2.03	5.0	12.3	36.3	116.7
Dec	9.3	4.4	0.20	0.09	0.16	0.23	0.27	0.41	0.97	2.24	5.5	13.7	41.9	138.2
2010[2] March[P]	10.4	4.2	0.18	0.11	0.13	0.21	0.21	0.39	0.94	2.21	5.8	13.9	45.8	159.6

See notes on first page of table

Table 6.2 **Deaths: subnational**

Government Office Regions of England

Rates

Year and quarter		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Total deaths (deaths per 1,000 population of all ages)										
1996		11.7	11.7	11.2	10.7	10.7	10.3	9.4	10.7	11.7
1997		11.6	11.6	11.1	10.5	10.6	10.2	9.0	10.6	11.7
1998		11.9	11.7	11.2	10.8	10.6	10.2	8.8	10.4	11.4
1999		11.6	11.5	10.9	10.7	10.7	10.3	8.7	10.5	11.6
2000		10.8	10.7	10.3	10.0	10.3	9.9	8.2	9.8	11.3
2001		11.1	11.0	10.4	10.1	10.2	9.9	7.9	9.9	11.0
2002		11.2	11.0	10.5	10.2	10.3	10.0	7.8	10.0	11.1
2003		11.3	11.0	10.5	10.3	10.5	9.9	7.9	9.9	11.2
2004		11.0	10.5	10.0	9.7	9.9	9.5	7.3	9.5	10.4
2005		10.8	10.4	9.9	9.7	9.9	9.5	7.1	9.4	10.4
2006		10.5	10.2	9.6	9.6	9.7	9.3	6.8	9.2	10.1
2007		10.4	10.3	9.7	9.4	9.7	9.1	6.6	9.1	10.2
2008		10.7	10.3	9.7	9.5	9.7	9.2	6.6	9.1	10.2
2009		10.1	9.8	9.2	9.2	9.2	8.9	6.3	8.8	10.0
2007	March	11.9	11.7	10.9	10.6	11.0	10.2	7.4	10.0	11.5
	June	9.9	9.9	9.5	9.1	9.4	8.8	6.5	8.8	9.8
	Sept	9.4	9.2	8.7	8.5	8.5	8.3	6.0	8.2	9.2
	Dec	10.7	10.4	10.0	9.7	9.8	9.4	6.7	9.5	10.5
2008	March	11.6	11.1	10.4	10.1	10.5	10.0	7.2	9.8	10.9
	June	10.1	9.9	9.5	9.4	9.4	9.0	6.4	8.9	9.9
	Sept	9.6	9.2	8.6	8.5	8.6	8.1	5.8	8.1	9.4
	Dec	11.3	10.9	10.2	10.3	10.2	9.7	6.9	9.6	10.8
2009	March	11.3	11.1	10.5	10.3	10.6	10.2	7.2	10.3	11.5
	June	9.7	9.3	8.8	8.9	8.7	8.4	6.0	8.3	9.4
	Sept	9.1	8.9	8.3	8.2	8.3	8.0	5.6	7.9	9.0
	Dec	10.2	10.2	9.7	9.5	9.4	9.1	6.5	8.9	10.0
2010	March[P]	10.7	10.8	10.0	10.2	10.3	10.0	6.9	10.0	11.2
Infant mortality (deaths under 1 year per 1,000 live births)										
1996		6.2	6.3	6.5	6.3	6.8	5.3	6.3	5.3	5.5
1997		5.8	6.7	6.5	5.7	7.0	4.8	5.8	5.0	5.8
1998		5.0	6.3	6.9	5.6	6.5	5.0	6.0	4.4	4.8
1999		5.6	6.5	6.3	6.0	6.9	4.6	6.0	4.8	4.7
2000		6.5	6.2	7.3	5.4	6.8	4.4	5.4	4.4	4.7
2001		5.4	5.8	5.5	4.9	6.4	4.5	6.1	4.2	5.4
2002		4.8	5.4	6.1	5.6	6.6	4.3	5.5	4.5	4.3
2003		4.9	5.9	5.7	5.9	7.4	4.5	5.4	4.2	4.1
2004		4.6	5.4	5.8	4.9	6.3	4.2	5.2	3.9	4.5
2005		4.7	5.6	6.0	4.8	6.6	4.0	5.2	3.9	4.5
2006		5.4	5.6	5.7	5.4	6.4	4.1	4.9	4.1	4.0
2007		4.7	5.0	5.7	5.3	5.9	4.3	4.5	3.9	4.2
2008		4,2	5.2	5.4	4.9	6.5	4.4	4.3	4.0	4.0
2009[P]		3.8	4.9	5.5	5.1	6.0	4.0	4.5	3.9	4.0
2007	March	5.1	5.1	4.5	5.3	6.4	4.2	4.5	3.9	4.4
	June	4.5	5.5	7.2	6.5	6.1	3.9	5.1	4.3	3.9
	Sept	4.0	4.3	5.2	5.1	5.5	4.7	4.7	3.9	4.1
	Dec	5.3	5.2	5.7	4.3	5.7	4.4	4.0	3.5	4.2
2008	March	4.1	5.0	5.8	4.7	7.6	4.4	4.0	4.5	4.9
	June	4.5	4.8	4.6	4.8	6.7	4.2	3.9	3.7	3.0
	Sept	3.8	5.6	4.8	5.7	6.4	4.4	4.4	3.6	4.1
	Dec	4.4	5.2	6.4	4.3	5.5	4.5	4.8	4.3	3.9
2009	March[P]	4.3	4.8	6.3	5.9	6.1	3.9	4.6	4.5	4.2
	June[P]	3.8	5.5	4.8	5.3	7.0	3.7	4.7	3.8	4.7
	Sept[P]	3.5	4.6	6.0	4.1	5.2	4.5	3.9	3.7	3.5
	Dec[P]	3.7	4.7	5.0	5.2	5.8	4.1	4.8	3.5	3.6
2010	March[P]	5.0	4.7	6.0	4.5	6.2	3.3	4.5	3.9	3.5

Notes: Figures represent the numbers of deaths occurring in each year up to 2001. From 2002 onwards the figures have been revised and relate to the number of deaths registered in each year. The 2008 perinatal rates have been updated to include the late receipt of 14 stillbirth records.

Death rates for 2002 to 2008 have been calculated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.

Death rates for 2009 have been calculated using the 2009 population estimates published on 24 June 2010.

P Provisional.

Source: Office for National Statistics.

Table 6.2 continued **Deaths: subnational**

Government Office Regions of England

Rates

Year and quarter	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Neonatal mortality (deaths under 4 weeks per 1,000 live births)									
1996	4.1	4.0	4.2	4.2	4.9	3.5	4.4	3.5	3.8
1997	3.7	4.3	4.4	3.7	5.0	3.3	3.7	3.4	3.9
1998	3.1	4.1	4.5	3.7	4.8	3.4	4.1	2.9	3.3
1999	4.1	4.4	4.1	4.3	4.8	3.0	4.1	3.2	3.2
2000	4.4	4.3	5.0	4.1	5.0	3.0	3.7	3.1	3.0
2001	3.5	3.8	3.2	3.4	4.4	2.9	4.1	2.9	3.7
2002	3.2	3.6	4.0	4.0	4.8	2.9	3.6	2.9	3.1
2003	3.2	4.1	4.0	4.2	5.1	3.0	3.7	2.8	2.9
2004	2.8	3.6	3.8	3.5	4.7	2.9	3.6	2.8	3.2
2005	2.9	3.8	4.0	3.5	4.9	2.6	3.4	2.7	3.2
2006	3.8	3.8	4.0	4.0	4.6	2.9	3.4	2.8	2.9
2007	3.0	3.3	4.0	3.6	4.5	3.0	3.1	2.6	2.8
2008	3.2	3.5	3.3	3.5	4.6	3.0	2.8	2.8	2.8
2009[P]	2.8	3.3	3.7	3.5	4.3	3.0	3.1	2.5	2.5
2007 March	4.0	3.8	3.3	3.4	4.8	2.9	3.0	2.6	3.0
June	1.8	3.7	5.2	4.5	4.6	2.6	3.5	3.0	2.5
Sept	2.6	2.7	3.5	3.5	4.2	3.1	3.1	2.5	3.1
Dec	3.7	2.9	3.8	2.8	4.6	3.6	2.7	2.4	2.7
2008 March	3.2	3.3	4.0	3.6	5.8	3.0	2.7	2.9	3.1
June	2.9	3.4	2.7	3.3	4.3	2.7	2.6	2.7	2.4
Sept	3.1	3.6	3.1	4.1	4.8	2.9	2.9	2.6	2.8
Dec	3.6	3.6	3.6	3.0	3.5	3.3	3.1	3.0	2.9
2009 March[P]	2.7	3.0	4.0	4.0	4.5	3.0	3.0	2.8	2.5
June[P]	3.0	3.7	3.5	3.9	4.5	2.8	2.9	2.2	3.0
Sept[P]	2.3	3.4	4.1	2.8	4.3	3.1	2.8	2.8	2.1
Dec[P]	3.1	3.2	3.3	3.2	4.1	3.0	3.6	2.2	2.4
2010 March[P]	3.0	3.1	4.2	3.3	4.3	2.2	3.1	2.8	2.5
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)									
1996	9.2	8.6	8.3	8.7	10.2	7.5	9.6	7.8	7.5
1997	8.0	8.9	8.3	7.7	9.6	7.3	9.0	7.3	8.7
1998	8.2	8.7	9.2	8.0	9.3	7.4	9.0	6.8	7.3
1999	8.2	8.7	8.3	7.8	9.9	7.0	9.0	6.9	7.8
2000	8.5	8.6	9.6	7.8	9.6	7.1	9.0	6.6	6.6
2001	7.8	8.7	7.5	7.9	9.1	7.1	8.9	6.9	7.2
2002	8.1	8.5	9.0	8.5	10.0	7.5	9.3	6.9	6.8
2003	7.8	9.0	9.1	9.5	10.2	7.3	9.6	7.0	7.0
2004	7.9	8.4	9.4	8.1	9.6	7.6	9.3	7.0	7.2
2005	7.8	8.2	9.4	7.6	9.9	6.4	8.5	6.8	6.8
2006	8.0	8.3	8.5	8.4	9.2	6.7	8.8	7.0	6.6
2007	7.2	7.9	8.8	7.3	9.1	7.0	8.4	6.7	6.4
2008	8.1	7.8	7.9	7.4	9.3	6.5	7.8	6.7	6.6
2009[P]	6.9	7.6	8.2	8.4	9.1	7.2	7.7	6.5	6.7
2007 March	7.5	8.5	7.8	6.8	9.5	7.6	8.5	6.8	6.8
June	6.8	7.4	9.2	8.6	9.8	6.7	9.1	7.1	6.5
Sept	7.4	7.3	8.9	7.1	7.8	7.0	8.6	6.1	6.4
Dec	7.2	8.5	9.1	6.7	9.5	6.8	7.6	6.7	6.1
2008 March	6.7	8.2	9.3	7.8	11.5	6.1	7.7	6.7	6.4
June	7.4	8.0	7.7	7.5	9.4	6.5	7.7	6.6	6.3
Sept	8.3	8.1	6.9	6.8	8.3	6.4	7.4	5.9	7.3
Dec	10.1	6.8	7.9	7.7	8.1	6.9	8.6	7.6	6.5
2009 March[P]	6.5	7.8	8.3	9.8	9.3	7.6	8.0	6.8	6.9
June[P]	7.2	7.7	7.6	8.3	9.9	7.1	7.3	6.6	7.2
Sept[P]	5.4	7.8	9.3	7.6	8.3	7.6	7.7	6.4	6.3
Dec[P]	8.3	6.9	7.4	7.9	8.9	6.7	8.0	6.3	6.3
2010 March[P]	7.3	7.8	8.4	7.9	9.0	6.8	7.7	6.7	5.1

See notes on first page of table

Table 6.3 **Deaths: selected causes (International Classification)[1] and sex**

England and Wales

Year and quarter		All deaths		All causes (age - standardised per million population[2])	Numbers (thousands) and rate for all deaths and age-standardised rates per million population for selected causes									
		Number (thousands)	Crude rate per 100,000 popualtion		Oesophagus	Stomach	Colon	Rectosigmoid junction, rectum, and anus	Trachea, bronchus and lung	Melanoma of skin	Other malignant neoplasms of skin	Breast	Cervix uteri	Ovary
				A00–R99 V01–Y89	(C15)	(C16)	(C18)	(C19–C21)	(C33–C34)	(C43)	(C44)	(C50)	(C53)	(C56)
Males														
1971		288.4	1,207	13,466	76	317	187	144	1,066	10	12	4	:	:
1981		289.0	1,196	12,189	90	251	181	135	1,028	17	9	3	:	:
1991		277.6	1,125	10,291	117	185	194	117	842	23	10	3	:	:
1998		264.7	1,064	8,981	129	132	169	95	643	26	8	3	:	:
1999		264.3	1,044	8,862	127	127	161	90	611	27	7	2	:	:
2000		255.5	1,005	8,437	128	118	158	89	592	28	7	2	:	:
2001		252.4	987	8,188	129	111	155	89	570	26	7	3	:	:
2002		254.4	990	8,126	131	110	151	91	561	27	8	3	:	:
2003		254.4	985	8,025	134	102	146	90	538	28	8	2	:	:
2004		245.2	943	7,595	129	95	142	92	522	30	9	2	:	:
2005		243.9	931	7,380	132	93	138	92	513	28	8	2	:	:
2006		240.9	913	7,123	131	83	132	90	509	31	7	2	:	:
2007		240.8	906	6,948	128	82	128	88	498	31	8	3	:	:
2008		243.0	907	6,852	131	78	129	90	495	31	7	2	:	:
2009		238.1	882	6,573	130	76	125	86	480	32	7	2	:	:
2007	March	65.4	998	7,615	126	88	132	86	522	33	7	2	:	:
	June	58.2	879	6,755	130	84	122	86	493	31	8	3	:	:
	Sept	55.2	824	6,339	128	80	126	87	470	29	7	3	:	:
	Dec	62.0	926	7,095	129	78	132	94	509	31	9	3	:	:
2008	March	64.6	969	7,295	136	80	132	88	509	29	5	1	:	:
	June	59.1	887	6,715	126	77	130	90	478	33	8	2	:	:
	Sept	55.4	823	6,257	126	79	129	92	484	30	8	2	:	:
	Dec	63.9	950	7,145	135	78	126	91	510	33	6	1	:	:
2009	March	65.9	990	7,310	129	71	131	84	480	28	7	2	:	:
	June	56.6	841	6,281	134	77	123	87	487	33	7	2	:	:
	Sept	54.5	801	6,003	130	78	120	81	468	33	8	3	:	:
	Dec	61.1	898	6,710	126	78	125	92	486	33	8	2	:	:
2010	March[P]	63.8	950	6,943	127	72	118	89	475	34	6	2	:	:
Females														
1971		278.9	1,104	8,189	40	149	176	79	183	14	6	379	83	126
1981		288.9	1,134	7,425	42	111	157	74	252	16	5	405	69	121
1991		292.5	1,122	6,410	50	74	146	61	300	18	4	401	54	118
1998		290.3	1,108	5,945	49	54	117	47	291	21	3	328	35	116
1999		291.8	1,097	5,929	52	51	115	46	289	20	3	319	33	111
2000		280.1	1,049	5,655	51	48	107	45	285	21	3	311	33	109
2001		277.9	1,038	5,543	48	46	103	45	283	20	3	308	31	112
2002		281.0	1,046	5,539	51	44	103	44	285	19	3	302	29	112
2003		284.7	1,056	5,584	50	42	98	46	285	20	3	293	27	108
2004		269.0	994	5,277	48	42	96	47	284	19	3	285	27	102
2005		269.1	988	5,188	48	39	96	45	289	20	3	282	26	102
2006		261.7	956	4,988	48	35	93	46	300	19	4	277	24	99
2007		263.3	957	4,920	47	35	92	48	300	21	4	267	24	96
2008		266.1	961	4,897	47	35	90	48	307	22	3	263	23	93
2009		253.3	910	4,628	45	32	85	47	298	21	3	254	23	91
2007	March	74.0	1,091	5,522	50	35	92	49	314	22	4	284	25	95
	June	62.8	916	4,756	48	31	88	45	296	22	4	267	22	97
	Sept	58.8	847	4,407	40	37	91	47	285	21	3	251	22	96
	Dec	67.7	976	5,006	51	37	96	49	305	20	4	268	25	94
2008	March	71.8	1,044	5,246	50	36	86	47	302	20	3	269	24	93
	June	64.0	930	4,758	46	36	86	47	298	21	3	259	23	91
	Sept	58.9	846	4,398	43	34	94	45	299	23	3	254	24	92
	Dec	71.4	1,026	5,188	48	33	93	50	329	24	2	268	23	96
2009	March	73.0	1,064	5,287	45	32	88	49	301	19	3	267	23	91
	June	59.1	852	4,373	45	32	82	46	294	19	2	252	23	90
	Sept	56.2	801	4,138	45	31	82	45	288	20	3	241	23	90
	Dec	65.0	926	4,728	45	33	86	46	310	25	4	255	22	95
2010	March[P]	70.7	1,022	5,077	43	35	87	47	320	20	4	252	23	95

Notes: Figures represent the number of deaths registered in each year up to 1992 and the number of deaths occurring in each year from 1993 to 2001.
The number of deaths for 2002 onwards relate to registrations.
The rates by cause of death in this table are based on final underlying cause. For further details see the Explanatory Notes in the 'Report: Death registrations in England and Wales, 2004: causes' in HSQ26.
Death rates for 2002 to 2008 have been updated using revised mid-2002 to mid-2008 population estimates which were published on 13 May 2010.
Death rates for 2009 have been updated using the latest 2009 mid year population estimates published on 24 June 2010.
Death rates for 2010 are provisional and based on the 2008-based population projections for 2010.

Table 6.3 continued **Deaths: selected causes (International Classification)[1] and sex**

England and Wales — Numbers (thousands) and rate for all deaths and age-standardised rates per million population for selected causes

Malignant neoplasms													
Prostate	Bladder	Leukaemia	Diabetes mellitus	Ischaemic heart disease	Cerebro vascular diseases	Pneumonia	Bronchitis, emphysema and other chronic obstructive pulmonary disease	Asthma	Gastric and duodenal ulcer	Diseases of the liver	Land transport accidents	Intentional self-harm and events of undetermined intent with inquest verdict 'Open'	Year and quarter
(C61)	(C67)	(C91–C95)	(E10–E14)	(I20–I25)	(I60–I69)	(J12–J18)	(J40–J44)	(J45–J46)	(K25–K27)	(K70–K76)	(V01–V89)	(X60–X84, Y10–Y34)	
													Males
198	124	74	82	3,801	1,541	920	944	21	107	41	209	124	1971
214	121	74	82	3,664	1,141	1,053	683	28	90	58	119	151	1981
304	121	77	131	2,984	940	391	606	31	73	76	125	160	1991
277	99	67	94	2,215	706	720	463	18	60	115	86	152	1998
272	93	67	94	2,095	673	770	474	18	64	119	86	151	1999
260	92	67	88	1,959	622	735	416	17	59	119	86	141	2000
274	93	70	94	1,872	690	388	403	16	55	139	86	134	2001
272	90	68	91	1,792	692	389	398	16	56	145	93	134	2002
273	88	72	91	1,703	663	407	410	14	53	156	91	134	2003
267	85	67	83	1,570	596	361	366	15	50	152	85	133	2004
256	80	67	78	1,467	553	353	368	12	46	155	85	128	2005
250	81	68	74	1,353	520	320	343	10	45	161	83	123	2006
247	81	66	71	1,280	481	303	337	11	39	162	79	119	2007
240	79	65	73	1,211	467	301	346	10	40	164	70	125	2008
239	79	64	66	1130	432	283	320	10	37	157	61	127	2009
252	83	66	77	1,441	541	395	433	11	44	178	84	115	March 2007
246	80	69	65	1,249	465	286	311	11	36	154	77	121	June
233	78	61	65	1,146	429	226	265	9	35	152	73	116	Sept
257	82	69	75	1,287	489	306	338	11	40	167	82	125	Dec
239	75	64	75	1,325	514	362	413	11	48	164	68	108	March 2008
228	78	65	73	1,196	453	284	321	8	39	161	72	121	June
238	76	61	69	1,071	409	225	260	8	34	162	70	137	Sept
253	86	68	75	1,253	495	335	392	12	39	169	70	135	Dec
246	81	69	72	1,317	516	408	428	11	41	155	64	119	March 2009
237	78	59	63	1,071	400	248	286	9	37	149	58	125	June
234	76	64	59	1,005	382	203	250	8	35	155	57	125	Sept
240	82	64	70	1,131	430	278	316	11	35	169	63	138	Dec
244	74	63	69	1,205	482	334	377	11	38	170	48	112	March[P] 2010
													Females
:	32	47	89	1,668	1,352	624	193	25	44	31	82	84	1971
.	35	47	66	1,601	1,012	740	155	30	57	43	41	81	1981
:	34	44	95	1,407	812	325	211	30	46	49	45	51	1991
:	32	41	65	1,055	645	546	226	22	41	64	28	43	1998
:	30	45	65	986	629	591	241	22	39	67	28	45	1999
:	31	39	62	907	577	546	216	20	41	68	24	45	2000
:	29	41	62	878	620	307	220	19	39	77	23	40	2001
:	30	43	65	845	618	318	225	20	37	79	25	42	2002
:	30	39	66	813	606	336	243	19	36	80	28	42	2003
:	28	40	60	737	551	297	214	18	35	83	25	44	2004
:	28	39	56	686	518	297	224	17	32	81	23	43	2005
:	29	36	54	629	478	261	213	16	29	87	24	39	2006
:	27	38	53	592	454	251	218	14	26	87	23	35	2007
:	27	37	51	561	442	255	226	15	27	86	21	38	2008
:	27	37	49	504	407	228	206	13	24	83	17	38	2009
:	29	40	58	689	517	353	298	18	28	96	23	33	March 2007
.	29	36	49	569	439	228	204	14	27	85	27	31	June
.	24	34	50	520	399	178	156	12	24	80	22	35	Sept
:	26	41	56	591	464	249	217	14	26	86	20	39	Dec
:	29	36	54	612	485	319	263	17	28	91	21	33	March 2008
:	27	36	51	547	431	236	206	14	26	85	22	39	June
:	25	36	46	498	380	170	159	11	27	78	24	40	Sept
:	27	37	53	590	472	295	275	17	27	92	18	40	Dec
:	27	34	58	576	483	347	288	18	28	86	17	36	March 2009
:	28	35	45	490	377	188	180	12	21	82	16	37	June
:	27	39	46	448	349	160	147	9	22	76	15	39	Sept
:	26	39	47	503	421	220	209	13	25	88	19	38	Dec
.	24	37	54	542	457	279	257	18	26	95	14	35	March[P] 2010

1 The Ninth Revision of the International Classification of Diseases, 1975, came into operation in England and Wales on 1 January 1979. The Tenth Revision of the International Classification of Diseases, 1992, came into operation in England and Wales on 1 January 2001. The cause descriptions and codes relate to ICD-10. For changes to this table see 'In Brief', Health Statistics Quarterly 14.

2 Directly age-standardised to the European Standard Population. See Notes to Tables.

P Provisional

Source: Office for National Statistics.

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